RESEARCH COMMUNICATION

Perceptions and Opinions towards Skin Cancer Prevention in Malaysia: A Qualitative Approach

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Abstract

Introduction: Malignant melanoma in particular is one of the few remaining cancers with an increasing incidence. Objectives: The objective of this study is to explore the perceptions and opinions of young Malaysians towards skin cancer prevention. Methodology: Focus group discussions were conducted among 33 medical science students from Management and Science University (MSU), Shah Alam, Malaysia, using convenience sampling. Students were divided into 4 focus groups consisting of 8, 8, 9 and 8 students respectively. The facilitator wrote down the conversations and data obtained were classified into various categories and analyzed manually. Results: The majority of the participants mentioned that overexposure to ultraviolet light is the commonest cause of skin cancer but also that the most benefit we get from sun ight is vitamin D synthesis. The majority mentioned that the best prevention measure for skin cancer is using a sunscreen, followed by limit exposure to the sun. Conclusion: The present study demonstrated there is a lack of knowledge regarding screening methods and prevention measures of skin cancer. Therefore, there is a need to establish health education unit in all universities to educate all university students regarding various health problems including skin cancer prevention.

Keywords: Skin cancer prevention - perceptions - qualitative study - Malaysia

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Introduction

Skin cancer has increased steadily during the past four decades, and it accounts for 1 in 3 cancer cases worldwide (Rigel et al., 2004). Skin cancers are relatively uncommon malignancies worldwide and not ranked among the top ten common cancers (WHO 2000). Three most frequent primary skin cancers are basal cell carcinoma (BCC), squamous cell carcinoma (SCC) and malignant melanoma. BCC and SCC, in combination referred to as non-melanoma skin cancers (NMSC), and malignant melanoma are common in white populations (Leiter & Garbe, 2008). Skin cancers are the most common type of malignancies seen in the United States. It was estimated in 2004 that more than one million people would be newly diagnosed as having basal cell or squamous cell carcinomas (Marks & Whiteman, 1994; Saraiya et al., 2004). Malignant melanoma in particular is one of the few remaining cancers with an increasing incidence, the lifetime risk now being around 1 in 74 (Rigel & Carucci ,2000). Recently there has been a dramatic increase in the prevalence of skin cancer worldwide (Cancer Research UK, 2008a).

Exposure to ultraviolet radiation (UVR) from the sun is the most important known risk factor for skin cancer, increasing sun protective behaviors and decreasing excessive sunbathing may reduce the incidence of skin cancer (Armstrong & Kricker, 2001; Bastuji-Garin et al., 2002; Purdve et al., 2001). Skin screening is important to improve early diagnosis of melanoma. The people at greatest risk of melanoma are older people, specially men, people with many moles, with fair pigmentation, who sunburn easily and are unable to tan, and those with a personal or family history of skin cancer (Marks, 2000). Skin cancer is more common in people with light coloured skin who spend a lot of time under the sun. It can occur anywhere on the body but is more likely to be found in places exposed regularly to sunlight such as the face, arms or hands. High levels of exposure to UV radiation increase the risk of all three major forms of skin cancer, and approximately 65% to 90% of melanomas are caused by UV exposure (Armstrong & Kricker, 1993). Studies have shown that the damage caused by UV radiation, particularly damage to DNA, plays a central role in the development of melanoma (Gilchrest et al., 1999).

The most common warning sign of skin cancer is a 'growth' or 'a sore that will not heal' (NCI, 2004). With melanoma, malignant cancer cells are found in the melanocytes (the cells that colour the skin). It occurs more frequently in adults but can also be found occasionally in children or adolescents. Warning signs and symptoms of melanoma include changes in the size, colour or shape of a mole, oozing or bleeding from a mole, a mole that feels itchy, hard, lumpy or swollen (NCI, 2004).

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It is believed that total body skin examinations (TBSE) will reduce the incidence and mortality of skin cancer (U.S. Preventive Services Task Force 2002). Preventative measures for skin cancer include staying out of the sun during 10am-5pm, wearing sunscreen when exposed to sunlight and avoiding exposure to sunlamps and use of tanning salons. Overall, primary prevention of skin cancer is concerned with a reduction in the risk factors for skin cancer, most notably sun exposure and sunburn (Borland et al., 1990; MacKie, 1998; Turner, 1998; Marks, 1999), through environmental changes, social changes and behavioural modification (National Health and Medical Research Council (NHMRC), 1996; Morris et al., 1998). This includes such diverse activities as getting people to wear hats and long-sleeved clothes, stay in the shade, create shade by planting trees or constructing other canopies, reschedule work practices and sporting times, and other activities. The recommendation of World Health Organization regarding sun protective behaviors are: staying in the shade, wearing protecting clothes, avoiding the sun during midday and using a sun screen (Saraiya et al. 2004). Nearly, all skin cancers are preventable, as the great majority of them are attributed to sun exposure. Therefore, the application of sun protective strategies may reduce the incidence of skin cancer and malignant melanoma (Koh & Geller. 2004; Hill. 2004; Baron-Epel & Azizi. 2003). Regular voluntary sunscreen use for skin cancer prevention can be sustained by sun-sensitive people in the long term (Clavarino and Green, 2006; Ermertcan et al. 2005). Sunlight is a great risk factor for the formation of skin cancer; it is advisable to educate adults about the preventive measures and the importance of early diagnosis (Campbell & Birdsell. 1994). Risk of melanoma and other skin cancers can therefore be reduced by limiting exposure to sunlight, which is the primary source of UV radiation. (Sunlamps and tanning beds are other sources.) Total UV exposure depends on the intensity of the light, duration of skin exposure, and whether the skin is protected by shade, clothing (including hats), or sunscreen. Severe blistering sunburns are associated with an increased risk of both melanoma and basal cell carcinoma. For these cancers, intermittent intense exposures seem to carry a higher risk than do lower-level, chronic, or cumulative exposures, even if the total amount of UV exposure is the same. The risk of squamous cell carcinoma, in contrast, is strongly associated with chronic UV exposure but not with intermittent exposure (Armstrong & Kricker 2001).

Exposure to UV radiation during childhood and adolescence plays a role in the future development of both melanoma and basal cell cancer (Whiteman et al., 2001; Westerdahl et al., 1994; Elwood, 1992; Kricker et al., 1995; Gallagher et al., 1995; Gallagher, 1997). The risk of developing melanoma is strongly related to a history of one or more sunburns in childhood or adolescence (Westerdahl et al., 1994; Elwood & Jopson ,1997; Whiteman and Green, 1994). Sunburns during these periods have also recently been found to increase the risk of basal cell carcinoma (Kricker et al. 1995; Gallagher et al. 1995). Nevi, or moles are an important risk factor for skin cancer, and most develop in childhood through early adulthood. It may be that sun exposure in childhood heightens the risk of melanoma by increasing the number of moles (Armstrong, 1997). Sun protection during childhood may therefore reduce the risk of melanoma in adulthood (Autier et al., 1998; 1994). Children and adolescents have more opportunities and time than adults to be exposed to sunlight (Buller & Borland, 1999) and thus more opportunities to increase their risk of developing skin cancer (Autier & Dore, 1998; Taylor et al. 1990). At least 25% of a person's lifetime UV exposure occurs during childhood and adolescence (Stern et al. 1986; Godar et al. 2004; Williams & Pennella 1994). Therefore, it is important to explore the prevention measures towards skin cancer among young Malaysian.

Materials and Methods

This study was conducted in February of the academic year 2011 among 33 medical science students from Management and Science University (MSU), Shah Alam, Malaysia. Universal sampling was used to conduct focus group discussions. This study was approved by the Research and ethics committee of Management and Science University (MSU). Consent was obtained from all participants before the group discussions began. Students were divided into 4 focus groups; each group consisting of 8, 8, 9 and 8 students respectively. The main author was the facilitator for the group discussions. The facilitator asked probing questions and directed the group discussions in which all participated in the discussion. The facilitator wrote down the conversation during the discussions. The students invited to participate and four round tables were arranged and participants were sited according their preference place. The ideal focus group discussion ranged from 8-12 participants, there were four groups because the themes already saturated that's mean there is no new them generated if we conduct more focus-group discussions. The data obtained were classified into various categories and analyzed manually.

Results

A total number of 33 medical science students were participated in this study. The majority of them were 21 years old (20-25), Malay (90%) and female (84%).

Definitions

The majority of the participants define the skin cancer as abnormal growth of skin cells.

Some of them said: "Skin cancer is the mutation of the cells in the Skin that cause abnormal skin texture." (21 years old, female, Indian, rural area)

"Skin cancer is changes in skin color." (20 years old, female, Malay, urban area)

"Skin cancer is skin problem that can cause death." (21 years old, female, Malay, urban area)

One of them said: "Skin cancer is Inflammation of the skin." (24 years, female, Malay, urban area)

Causes of skin cancer

The majority of the participants mentioned that over

exposure to ultra violate (UV) is the commonest causes of skin cancer, followed by cosmetic product especially whitening products, chemicals ingredients in cosmetic or skin care product. Few of the participants mentioned that acid rain, allergy, radiation and lack pigment of melanin is the main causes of skin cancer.

Some of them said:

"The causes of skin cancer are too much exposure to sunlight and UV and too much cosmetic products for whitening." (21 years old, Female, Malay, urban area)

"Skin whitening cosmetic products is the main causes of skin cancer." (21 years old, female, Malay, urban area)

"Skin allergy can cause skin cancer." (21 years old, Female, Indian, rural)

"Acid rain the one of the causes of skin cancer." (21 years old, female, Malay, urban area)

"The causes of skin cancer are multiple cases which are: toxic, food and UV light" (21 years old, female, Malay, rural area)

"The cause of skin cancer is free radicals." (21 years old, Female, Malay, urban area)

"Allergic to food or dust is one of causes of skin cancer."(24 years old, Male, Malay, Urban area)

Benefits of sun exposure

The majority of the participants mentioned that the most benefit we get from the sun light is vitamin D synthesis. Few of them mentioned that the benefit of sun exposure is to kill the microbes.

"The benefit of sun exposure is to synthesis vitamin D." (23 years old, Female, Malay, Urban)

"Increase synthesis of vitamin D and pigmentation is the benefits that we can get we exposure our body to the sun." (23 years old, Female, Melanan).

"Sun exposure can kill the bacteria." (22 years old, female, Malay, Urban)

Harmful effects of sun exposure

The majority of the participants mentioned that the harmful effect of sun exposure is UV radiation. Few of the mentioned that skin cancer, sun burn, dry skin, dehydration, discoloring of the skin and global warming are the harmful effects of the sun exposure.

"It contain ultra violate that can penetrate skin cells of human and radiate it." (24 years old, Male, Malay, urban)

"Harmful effects of sun exposure are skin cancer, pigmentation in early age." (20 years old, Male, Malay)

Screening methods of the skin

The majority of the participants they don't have idea about the screening method of skin cancer. Few of them mentioned that skin biopsy is the screening method for skin cancer.

One of them said: "Observe any abnormalities, rashes, inflammation on the skin are the screening method of skin cancer." (20 years old, Female, Malay, urban area)

Prevention

The majority of the participants mentioned that the best prevention measures for skin cancer are using the sunscreen, followed by limit exposure to the sun. Few of them mentioned wear cloths covering all the body parts like hand and legs, don't use too many cosmetic products, wear hat, use umbrella are the preventive measures of skin cancer.

"Do not expose under sunlight during noon, consume enough vitamin is the best prevention measures of skin cancer." (20 years old, Female, Malay, urban)

"Avoid excessive exposure of sunlight, wear sunscreen or sunscreen when go out and cover most body parts are the best preventive measures." (21 years old, Female, Malay, Rural)

"Do not exposure to UV light and chemical reagents" (24 years old, Female, Malay, urban)

"Check for the potential carcinogenic elements in the skin product." (21 years old, Male, Malay, urban)

Discussion

The majority of the participants mentioned that over exposure to ultra violate (UV) is the commonest causes of skin cancer. Similar finding reported by Ermertcan et al. (2005) found that avoiding sun exposure during peak hours was the most popular preventive measures towards skin cancer prevention. This finding consistent with other study finding reported that high levels of exposure to UV radiation increase the risk of all three major forms of skin cancer, and approximately 65% to 90% of melanomas are caused by UV exposure (Armstrong & Kricker, 1993). This is due to the damage caused by UV radiation, particularly damage to DNA, plays a central role in the development of melanoma (Gilchrest et al., 1999). The U.S. Preventive Services Task Force guidelines recommend avoidance of sun exposure and the use of protective clothing for children and adults at increased risk of skin cancer. However in this study only few of the participants mentioned that protective clothing is one of the preventive measure of skin cancer. Similar finding reported by (Hornung et al., 2007) that only 13% of physicians discussed protective clothing. The majority of the participants mentioned that the best prevention measures for skin cancer are using the sunscreen, followed by limit exposure to the sun. similar findings by Ermertcan et al. (2005) found that avoiding sun exposure during peak hours was the most popular preventive behavior. In some studies, the importance of social education and getting positive behavioral changes were underlined to protect people from the health damaging effects of the excessive exposure to sunlight (Purdve et al., 2001; Pagota et al., 2003; Hill, 2004; Koh & Geller 2004).

Participants of this current study mentioned that use the cosmetic products especially whitening is one of the causes of skin cancer. Similar studies reported that cosmetic whitening products can cause skin cancer (Mahe et al., 2003; Ramsay et al., 2003).

The majority of the participants mentioned that the most benefits we get from the sun light is vitamin D synthesis. The main sources of vitamin D are UV-B radiation from the sun, dietary intake, and vitamin D dietary supplements. However, few foods are naturally rich in vitamin D – these include oily fish, cod-liver oil and egg yolks. As previous data have suggested that early

morning, late afternoon and evening exposure to sunlight may not result in any vitamin D production even in the tropics (Webb et al. 1988), it is likely that the percentage of respondents with adequate sunlight exposure might be even lower than that estimated from the current survey results. Sunshine exposure is a natural source of vitamin D with about 10 to 15 minutes of sunlight several days a week is enough for human body produces adequate quantities of Vitamin D (Bonjour, 2006; Moyad, 2003).

The majority of the participants mentioned that the harmful effect of sun exposure is UV radiation. Few of the mentioned that skin cancer, sun burn, dry skin, dehydration, discoloring of the skin and global warming. Several studies reported that cataract and macular degeneration are associated with UV exposure (Beatty et al., 2000; Delcourt et al., 2001; Ambati et al., 2003; Tomany et al., 2004), no one of the present study mentioned about it as a harmful effect of sun exposure. Therefore, there is an urgent need to educate the university students in this regard. Ultraviolet radiation (UV), especially UVB – wavelength between 290nm and 320 nm – is an established risk factor for skin lesions, because in addition to causing mutations in the DNA of keranocytes, it also has a suppressive effect on the skin immune system. Sunscreens inhibit the transmission of ultraviolet (UV) radiation into the skin by reflecting, absorbing, or scattering such radiation. Consequently, sunscreens have been recommended as a form of protection against sunlight, with protection increasing with higher sun protection factor (Kirsner et al., 2005).

In conclusion, the present study demonstrated there is a lack of knowledge regarding screening methods and prevention measures of skin cancer. Therefore, there is a need to establish health education unit in all universities to educate all university students regarding various health problems including skin cancer prevention.

Therefore, an awareness campaign among the general population around the risks of UV exposure and its prevention could help reduce the risk of developing these condi¬tions in the country. Standard guideline for skin cancer in Malaysia is urgently needed.

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