

Introduction

69 million visits abroad were made by UK residents in 2008; this marked a fall of 0.6% from the 2007 figures (Office for National statistics, 2008). The crisis in the world economy is likely to be causing a decline in foreign travel; however these statistics show that the UK population are still travelling. Unique features of the traveller and their travel can pose various risks to health. Sun exposure is one of the risks that travellers face. Results from epidemiological studies show that up to 75% of travellers suffer from travel related illness (Steffen and Lobel, 1994). The statistical evidence regarding the popularity of foreign travel and an understanding of associated risks lead us to think about prevention. Carroll et al (1998) advise that nurses working in primary care are the main providers of health services to travellers and therefore have a role in providing advice regarding prevention. Chiodini (1998) says the role of professionals providing travel health is to inform the traveller about the disease and health risks associated with the planned travel abroad. Along with vaccinations and the prescribing of medications, travellers are advised how to avoid risks and stay healthy whilst abroad and to recognise problems that may arise on their return. Despite the myths surrounding foreign travel, the risks of acquiring an infectious disease abroad is deemed to be low (Behrens and Steffen, 2008). However, McInnes et al, 2002 highlight the risks of unintentional injury in relation to foreign travel. They define an injury in the context of their research as “an event that has an external cause and is potentially preventable”. They choose to exclude sexually transmitted diseases, sports injuries (where the sport was the reason for the holiday), animal bites and sunburn and skin cancer within their study. The purpose of this article is to look at the nurse’s role in relation to sunburn and skin cancer prevention in relation to foreign travel advice. The travel consultation gives an ideal opportunity to discuss and advise the public regarding sunburn and skin cancer protection, however there will also be a discussion regarding other ways to impart the safety in the sun message to travellers.

Skin cancer in the UK

There are two types of skin cancer, malignant melanoma which is the most serious and non-melanoma skin cancer (NMCS) which is more common and easier to treat. Melanoma develops in the outer layers of the skin and may occur in existing moles whereas NMCS usually occurs on the areas of the body that receive high exposure to the sun (head, neck, hands and forearms). There are two main types of NMCS, basal cell carcinoma (BCC) and squamous cell carcinoma (SCC); both generally occur in older people (CRUK, 2011a). The latest statistics from Cancer Research UK (CRUK) show that in 2008 in the UK, 11,767 cases of malignant melanoma were diagnosed and that the incidence of melanoma has increased nearly four times since the 1970s. 6,183 of the cases of malignant melanoma were diagnosed in women and 5,584 in men in the UK in 2008. Over 98,800 new cases NMCS were reported in 2008 in the UK. However, there may be at least 100,000 new cases every year as not all are reported (CRUK, 2011b). This increase is associated with lifestyle in relation to sun exposure and its ultraviolet (UV) component, and the current societal view that a tan is both healthy and desirable. The British Association of dermatologists (BAD) provide an excellent resource for the public regarding melanoma that is an up-to-date view of the current issues (BAD, 2011). The BAD advise that exposure to ultra violet light in the first 20 years of life is the most important preventable risk factor for melanoma and that white skinned people who live in sunny countries are at high risk. We are also reminded that

artificial ultraviolet light such as that provided by sun beds also increases the risk of developing melanoma.

People at greater risk of melanomas:

- People who burn easily in the sun. Fair skinned people who freckle easily and have blue or green eyes and red or blonde hair.
- Past history of severe sunburn that may have blistered especially in childhood. However, not all melanomas are due to the sun and they can occur on areas of the body not normally exposed.
- People with many moles (50 or more) have greater than average risk of getting a melanoma.
- Atypical (unusual) dysplastic naevi (moles) can be larger than ordinary moles and have irregular edges and colour patterns. Some families have more of these moles and they are more prone to melanoma.
- Melanoma risk is raised if a family member has had it.
- Having a melanoma increases the chance of having another.
- Poor immune systems (for example as a result of organ transplants or people with HIV) have an increased risk of melanomas.

(List adapted from BAD, 2011).

Checking for skin cancers

It is important that people make a habit of regularly checking their own skin. Abnormalities on the skin that don't go away after 4 to 6 weeks or existing ones that are getting bigger should be looked at by a doctor or nurse. The British Association of Dermatologists advises that people see their doctor about any changes to a mole. A General Practitioner (GP) can make a referral via the NHS to a Consultant Dermatologist who is the expert in diagnosing skin cancer (BAD 2011).

The Global Solar Index (UVI)

With International collaboration the World Health Organisation developed the Global Solar UV Index (UVI) (WHO, 2002). The aim of the WHO guidance is to increase public awareness of the dangers of UV radiation and to encourage the adoption of protective measures. UVI is a measure of the UV radiation level at the Earth's surface and an indicator of the potential for skin damage. The UV Index ranges from zero upward – the higher the index value, the greater the potential for damage to the skin and eye, and the smaller the amount of time it takes to cause harm.

Exposure category	UVI range
Low	<2
Moderate	3-5
High	6-7
Very High	8-10
Extreme	11+

(Adapted from: WHO (2002) UV radiation exposure categories. Page 10)

The effects of UV radiation exposure are cumulative; WHO (2002) state that everyday exposure may be as important as foreign travel to sunny climates. Sun exposure is a risk factor for melanoma in both adults and children, with intermittent sun exposure as the strongest determinant of melanoma risk, although total sun exposure is also important (Elwood and Jopson, 1997). With more travellers choosing travel destinations where they will be exposed to high UV radiation levels, it is important that advice regarding skin protection is given.

UVA, UVB and UVC

Emissions from the sun include light, heat and UV radiation. UV radiation is divided into three bands A, B and C. All UVC and approximately 90% of UVB radiation are absorbed by ozone, water vapour, oxygen and carbon dioxide as sunlight passes through the atmosphere. UVA radiation is less affected by the atmosphere. The UV radiation reaching the Earth's surface is largely composed of UVA with a small UVB component. This is of relevance in view of the protection from UV offered by sunscreens.

Skin protection messages at home and for travellers

The CRUK SunSmart website has information about protecting adults and children from sun damage in the UK and abroad (CRUK 2011d). They advise avoiding intense sunshine and never advocate sunbed use. Their main message is do not get sunburnt wherever you are, as it can double the risk of developing a melanoma. The SunSmart campaign focuses on five main points (SMART) in descending order of importance:

- 1. Stay in the shade during the hottest part of the day – 11am - 3pm**
- 2. Make sure that you do not burn**
- 3. Always cover up – wear a T-shirt, hat and wraparound sun glasses**
- 4. Remember to take extra care with children**
- 5. Use factor 15 or higher sunscreen**

Sunscreen

Controversy surrounding the effectiveness of the way people use sunscreen and if use increases

risks by encouraging people to spend longer in the sun (CRUK 2011a). Warren et al (2004) suggest that despite other recommendations sunscreen is frequently the only sun protection used.

Some sunscreens block out UVA rays as well as UVB - these rays can also lead to skin cancer. In the UK, UVA protection is measured with a 'star' system. Sunscreens can have anywhere from 0 to 5 stars. The brand of sunscreen and the price are less important than the SPF and star rating. The CRUK (2011e) recommend using a sunscreen that has at least 4 stars, this means that it offers protection against UVA and UVB.

CRUK (2011e) recommend sunscreens with:

- **Sun Protection Factor (SPF)** of at least 15.*
- Sunscreens with a star rating of four stars or more to protect against UVA.
- Products that have not gone past their expiry date - most sunscreens have a shelf life of 2-3 years.

* *SPF 30 or (50) for children (BAD 2011).*

The CRUK, 2011e also advises sunscreen only works if enough is used; no sunscreen despite the factor and star rating will give protection if not applied correctly. When risk of burning is high, all exposed skin must be thoroughly covered in sunscreen. The Cancer Research UK (CRUK 2011e) guidance for an average person is:

- Two teaspoonful's of sunscreen for covering your head, arms and neck.
- Two tablespoonful's for covering your entire body, while wearing a swimming costume.

It is important to remember that no sunscreen gives 100% protection against UV rays.

Vitamin D

UV protection is advised for skin cancer prevention. However, public health campaigns that have educated populations regarding UV-radiation risks have been criticised for not balancing this with the vitamin D positive effect of UV light and how to prevent vitamin D deficiency (Reichrath, 2009). 90% of the bodies vitamin D requirements come from the sun with the remaining 10% obtained from the diet (Holick, 2007). Sun exposure therefore has helpful as well as harmful benefits to health. Cancer Research UK (2011f) have written a consensus statement regarding vitamin D, representing the views of the British Association of Dermatologists, Cancer Research UK, Diabetes UK, the Multiple Sclerosis Society, the National Heart Forum, the National Osteoporosis Society and the Primary Care Dermatology Society. The consensus advises that the current way people use sunscreen and the protection they offer is unlikely to contribute significantly to vitamin D deficiency. Within travel health consultations the practitioner has a short period of time to cover the prevention of the many risks associated with foreign travel; skin protection is just one of these risks. The skin protection message given has to be balanced with vitamin D requirements when advising people about safety in the sun.

Pre- travel health provision

Health professionals currently have the main role in the provision of pre-travel advice; however, the travel agent, tour operator and host country also have some responsibilities for the health and safety of travellers. Not all travellers who need to consult a health care professional prior to travel will do so (Van Herck et al, 2003). Cossar, et al (1990) studied a group of travellers returning to

Scotland between 1977 and 1985 and found that only 44% of the travellers taking part in their research sought pre-travel health advice, mostly from travel agents. Bauer (2005) reported that even when travellers did attend health services for pre-travel advice, they are not always able to recall the advice given. Not all travel destinations require a consultation with a health professional, but may still pose health risks to the traveller (for example: European travel can include risks of sunburn and skin damage). Even the new concept of the “staycation” where people are choosing to holiday at home could result in greater exposure to the sun (for example more outdoor leisure pursuits). Websites for travellers, guidebooks, travel agents, other travellers and healthcare practitioners who are not travel specialists can all play a role in educating the public about the risks of sun exposure.

The rise in foreign travel has resulted in an increased demand for pre-travel health services. Carroll et al 1998 report that nurses in primary care are the main providers of pre-travel health-care. Willcox and Munsen (2007) have concerns that pre-travel consultations lack research-based formal guidance about what should be covered and how. The aim of pre-travel health services is to provide holistic care in preference to a mechanistic approach such as issuing vaccinations and medications as the primary concern of the consultation. Travel-related morbidity and mortality are mostly related to non-vaccine preventable risks: behavioural change should be the primary focus of the consultation (Carroll et al 2008). However, the public’s concern about the need to be vaccinated against a particular infectious disease can be seen as one of the main catalysts for travellers to seek pre-travel health-care, allowing a consultation to take place. People travel for different reasons; pleasure, business, volunteering and gap years, study, religious pilgrimage, visiting friends and family. MacPherson et al (2007) remind us that the demographics and health determinants of travellers differ from those of non-travellers. The purpose of travel has been defined as having the greatest influence upon the health risks a person is exposed to (Barnett et al, 2010). Travellers are away from home for different lengths of time which also plays a part in increasing risk exposure. The pre-travel health consultation offers the opportunity to explore non-infectious risks such as skin protection and accident prevention. Behrens et al (2010) introduce the concept of an “epidemiological gradient of health risk between travellers two locations based on an assessment of the determinants of health” in the context of assessing risks of travellers visiting friends and family. Socioeconomic, behavioural, genetic/biological and environmental risk factors relating to individual and population determinants of health are looked at in relation to the gradient of risk between home and the area of travel. The gradient of risk between home and travel destinations can be applied to all travellers. Barnett et al (2010) advise travel health practitioners to use a framework for their risk assessment of pre-travel needs. All travellers are a part of this epidemiological gradient of risk between home and their travel destination. The epidemiological gradient of risk of skin damage between home and the countries that will be visited can be assessed within travel risk framework. A fundamental part of pre-travel preparation is a risk assessment where the information about travel and the traveller are collected and analysed (Carroll et al 2008). Travel health consultations lack standardisation and as with any health consultation can vary in quality. Bauer (2005) assesses the factors that may influence the quality of advice given by the health professional in travel consultations. These include the accuracy, appropriateness and amount of information provided; the time frame, the educational medium chosen and level of interpersonal skills. Travel health professionals have a role to play in imparting knowledge in regard to sun safety based on risk assessment within the pre-travel consultation; nevertheless, they are not alone in this responsibility.

Opportunities to give sun safety messages to travellers

The travel health consultation is the obvious environment for the skin safety risks to be explored. Many patient waiting areas have TV and video facilities where health messages such as sun safety can also be promoted. Newsletters and websites of travel clinics and GP practices are also another obvious place to promote sun safety.

However, in the light of previous discussions related to the small amount of people consulting travel health experts before travelling, other opportunities should be considered. The skin protection message is a public health message for all, not just travellers. Results of a study looking at the role community pharmacists could play in giving travel health advice suggest that travellers would be prepared to use this service (Hind et al, 2008). However, studies that have examined the provision of health advice by travel agents have proved lacking. Schwitz et al (2006) undertook a study to assess health-related information in members of the Swiss Federation of Travel Agencies in the city of Zurich, Switzerland. They concluded that travel agents should be given training in collaboration with health professionals, along with up to date easy accessible information on health risks. Also, a study looking at the health advice provided in travel brochures was found to have many deficiencies (Reid et al, 1986). Travel agents are ideally placed to reiterate the sun safety and other health messages, but need education to support the delivery of this information.

Everyone, not just travellers, needs to hear the sun safety message. The effective use of the mass media is an important element of community wide health education campaigns. This has been demonstrated as an effective tool in public health programmes addressing behavioural risk factors and is one strategy that can be used in skin cancer prevention (Smith et al 2002).

Nurses Roles

Buchanan (1998) feels that nurses working in any specialty have a role to play in skin cancer prevention and management. Nurses have the opportunity to impart skin cancer prevention advice to patients. Travel health consultations are not the only environment for education regarding skin protection. Harris (2000) says all nurses should be educated to promote prevention and the early detection of melanoma by:

- Identifying measures to prevent skin cancer.
- Recognising characteristics of those who are at high risk of developing melanoma.
- Being aware that melanoma is increasing in incidence despite the efforts to educate the public.
- Offering the use of sunscreens to parents and patients to encourage a conversation regarding the hazards of the sun.
- Referring patients at high risk or with a suspicious lesion to a dermatologist.
- Serving as a role model by practising preventive measures.

The main emphasis of awareness and prevention materials is to encourage people to adopt safe sun behaviour, as the CRUK 2011 SMART advises (CRUK 2011c) Harris (2000) also adds that we should try to change people's view that a tan is a cultural norm.

The level of awareness and education nurses have regarding skin cancer has an impact on how much information they can communicate to the public. Nurses are ideally placed to guide patients on a range of health behaviours. Undergraduate nurse training should involve educating nursing students about skin cancer prevention. If qualified nurses are trained to recognise different skin lesions, they will be able to reassure patients and refer them to a GP or dermatologist with any concerns (Freak, 2004). Nurses have an important role to play in skin cancer prevention.

Conclusion

UV radiation from the sun is a risk for many people living in the UK. This risk is potentially increased by travel abroad. Travel clinics have traditionally been the place for travellers to receive

pre travel advice based upon assessment of their health risks. Sun safety should form a part of these consultations. As not all travellers seek or need this advice, this article has considered some of the other possible sources of pre-travel health provision. Travel agents and community pharmacies could also provide sun safety information to travellers along with the wider role for nurses to spread the message under the backdrop of large media public health campaigns. If nurses are educated in how best to protect the skin and recognise potential abnormalities, this could help reduce statistics for skin cancer. The public also need to take responsibility for their health by practising sensible behaviour in the sun at home and abroad.

Useful Website Resources for further details about skin cancer and sun safety:

British Association of Dermatologists (UK)

<http://www.bad.org.uk/site/1/default.aspx>

Cancer Research UK

<http://www.cancerresearchuk.org/>

Macmillan Cancer Support

<http://www.macmillan.org.uk/Cancerinformation/Cancertypes/Skin/Aboutskincancer/Typesofskincancer.aspx>

NHS Choices

<http://www.nhs.uk/Conditions/Cancer-of-the-skin/Pages/Introduction.aspx>

NHS Direct – England

<http://www.nhsdirect.nhs.uk>

NHS 24 – Scotland

<http://www.nhs24.com>

NHS Direct – Wales

<http://www.nhsdirectwales.nhs.uk>

NICE. Skin cancer prevention: information resources and environmental change

<http://guidance.nice.org.uk/PH32>

Shunburn – Teenage Cancer Trust

<http://www.shunburn.co.uk>

SunSmart

<http://www.sunsmart.org.uk>

The Skin Cancer Foundation

<http://www.skincancer.org/>

The Ulster Cancer Foundation

<http://www.ulstercancer.org>

Key Points

- Skin cancer is increasing amongst the UK population.
- Sun exposure is proven to increase the risk of developing skin cancer.
- Foreign travel to sunny climates exposes people to various risks; skin damage is one of these risks.
- Nurses in primary care carry out most of the travel health consultations.
- Travel health risk assessment is not only the responsibility of health care professionals.
- All nurses have a role to play in skin cancer prevention
- Nurses need education and an awareness of skin cancer and its prevention to be able to inform the public.

References

Barnett E, MacPherson DW, Stauffer W, Loutan L, Hatz C F, Matteelli A, Behrens, R H (2010) The VFR (visiting friends or relatives) traveler in the 21st century: time for a new definition? *J Trav Med* 17:163–170.

Bauer IL (2005) Educational Issues and Concerns in Travel Health Advice: Is All the Effort a Waste of Time? *J Trav Med* 12: 1: 45-52

Behrens RH, Hatz CH, Gushulak BD, MacPherson DW (2007) Illness in travellers visiting friends and relatives: what can be concluded? *Clin Infect Dis* 44:761–762.

Behrens RH, Steffen R (2008) Travel medicine. In: Cook GC, Zumla A (eds). *Manson's Tropical Diseases*. Elsevier, Edinburgh

British Association of Dermatologists (2011) *Melanoma Patient Information leaflet*. <http://www.bad.org.uk/site/842/Default.aspx> (accessed 15/07/2011)

Buchanan P (1998) Skin cancer update *Professional Nurse* 13, 5, 305-309.

Cancer Research UK (2011a) *Skin Cancer Facts about the different types of skin cancer*. <http://www.sunsmart.org.uk/skin-cancer-facts/about-skin-cancer/> Accessed 13/07/2011

Cancer Research UK (2011b) *Skin Cancer incidence statistics*. <http://info.cancerresearchuk.org/cancerstats/types/skin/incidence/> Accessed 13/07/2011

Cancer Research UK (2011c) *Preventing melanoma some Sun Smart advice*
<http://cancerhelp.cancerresearchuk.org/type/melanoma/about/preventing-melanoma#smart>
(Accessed 15/07/2011)

Cancer Research UK (2011d) *SunSmart - Skin cancer Information and Sun Protection Advice*
<http://www.sunsmart.org.uk/> Accessed 15/07/2011

Cancer Research UK (2011e) Sunscreen skin cancer prevention advice.
<http://www.sunsmart.org.uk/advice-and-prevention/sunscreens/> Accessed 18/07/2011

Cancer Research (2011f) Consensus vitamin D position statement
http://info.cancerresearchuk.org/prod_consump/groups/cr_common/@nre/@sun/documents/generalcontent/cr_052628.pdf Accessed 18/07/2011

Cossar JH, Reid D, Fallon RJ, Bell EJ, Riding M H, Follett E A C, Dow B C, Mitchell S, Grist N R. (1990) A cumulative review of studies on travellers, their experience of illness and the implications of these findings. *J Infect* 21:27–42.

Carroll B, Behrens RH, Crichton D. (1998) Primary health-care needs for travel medicine training in Britain. *J of Trav Health* 5: 1, 3-6.

Carroll B, Daniel, A Behrens R (2008) Preparing the Tropical Traveller. *BJN* 17 (16), pp1046–1051

Chiodini J (1998) Top tips for setting up a travel clinic. *Practice Nurse* 18: 16, 5.

Elwood J and Jopson J. (1997). Melanoma and sun exposure: an overview of published studies. *Int J of Cancer* 73: 198–203

Freak J (2004) Promoting knowledge and awareness of skin cancer.

Freak J (2004) Promoting knowledge and awareness of skin cancer. *Nursing Standard* 12 18, 35 45-53

Harris J (2000) A plan to promote the prevention and early detection of melanoma. *Dermatology Nursing* 12, 5, 329-333

5, 45-53.

Hind C A, Bond C M, Lee A J, Van Teijlingen E R. (2008) Needs Assessment Study for Community Pharmacy Travel Medicine Services. *J Trav Med* 15(5) 328–334

Holick M F (2007) Vitamin D deficiency. *N Engl J Med* 357:266–81.

McInnes R J, Williamson LM, Morrison A J. (2002) Unintentional Injury during Foreign Travel: A Review. *Travel Med* 9:297–307.

Macpherson DW Gushlack BD Hu J (2007) Death and International Travel-The Canadian

Experience 1996-2004. *J Trav Med* 14(2): 304-10

Office for National statistics (2008) *Travel Trends 2008. Data and commentary from the International Passenger Survey*. http://www.statistics.gov.uk/downloads/theme_transport/Travel_Trends_2008.pdf
Accessed 12/07/2011

Reichrath J (2009) Skin cancer prevention and UV-protection: how to avoid vitamin D-deficiency? *BJD* 161 (Suppl. 3), pp54–60

Reid D, Cossar JH, Ako TI, Dewar RD. (1986) Do travel brochures give adequate advice on avoiding illness? *BMJ* 293: 1472

Schwitz FM, Haley TJL, Stat C, Hatz C R F. (2006) *J Trav Med*, 13 (5): 294–299

Smith J, Ferguson C, McKenzie J, Bauman A, Vita P. (2002) Impacts from repeated mass media campaigns to promote sun protection in Australia. *Health Promotion International*. Vol 17(1):51-60

Steffen R, Lobel HO (1994) Epidemiologic basis for the practice of travel medicine. *J Wilderness Med* 5:56-66.

Van Herck K, Zuckerman J, Castelli F, Van Damme P, Walker E, Steffen R. (2003) Travelers' knowledge, attitudes, and practices on prevention of infectious diseases: results from a pilot study. *J Travel Med* 2003; 10(2):75–78.

Warren S, Janda M, Baade P, and Anderson P. (2004) Primary prevention of skin cancer: a review of sun protection in Australia and internationally. *Health Promotion International*. Vol. 19 (3): 369-378

WHO (2002) *Global Solar Index: A practical Guide*. A joint recommendation of the World Health Organization, World Meteorological Organization, United Nations Environment Programme, and the International Commission on Non-Ionizing Radiation Protection. WHO/SDE/OEH/02.2 1-32
http://www.unep.org/PDF/Solar_Index_Guide.pdf Accessed 15/07/2011

Willcox A Munsden E (2007) The provision of advice for travel. *Practice Nursing* 18, 10