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Professional paper

Educating People About Importance of Photoprotection: Results of Campaign on the Islands in Dubrovnik Area

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A B S T R A C T

After an increasing number of skin cancer cases and some skin cancer deaths among young people in Dubrovnik area had been noted, a field research was done in the period from 2003 to 2007. The examinations were done on the islands in Dubrovnik area (Korčula, Mljet, Lopud, Šipan, Koločep and on the peninsula Pelješac). Research tasks were collecting information on sun-protection behaviors and attitudes and usage of sun protecting factor products, detection of the presence of skin cancer in the area and advising those diagnosed ill about further medical procedure, educating and informing local population as well as local physicians in the area with investigation results. In spite of wide media campaign, more then half of examined people did not use sun protective factor (SPF) products. It can be concluded that better education about damaging effects of ultraviolet radiations as well as further education how to properly protect its adverse effects is required.

Key words: *skin cancer, photoprotection, education*

Introduction

With 2554 hours of sunshine a year, Dubrovnik ranks among the sunniest towns of Southern Europe. Ultraviolet radiation is among the most significant environmental factors effecting people. Along with its positive effects, UV radiation can have adverse effects on human health[1–3]. The most recognisable harmful UV effects are sunburns, skin cancers and eye injuries[4–7]. Taking into consideration the population characteristics of the Dubrovnik region islands and having noticed the increased incidence of skin cancer as well as several deaths of very young persons in the Dubrovnik-Neretva County, a field research has been conducted in that area in the period between 2003 and 2007. The goal was to determine whether skin cancer was present and recommend therapeutic procedures to persons diagnosed with the disease, determine skin types according to Fitzpatrick[8–9], determine the quantities and manners of using skin protection products, educate the population in the stated areas, but also to brief general practitioners on the results of the research.

Patients and Methods

Research methods used were:

a) preliminary media campaign by means of local radio, newspaper and setting up posters in surgeries;
b) selection of potentially ill persons by general practitioners;
c) examinations by a dermatovenerology specialist; filling out questionnaires by selected ill persons and volunteers;
d) research results lectures for both the population and general practitioners.

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Specialist examinations were done in about 30 instances in surgeries in Vela Luka, Blato, Čara, Smokvica, Town of Korčula, Trpanj, Orebić, Šipanska Luka, Lopud, Koločep, as well as in the CUTIS specialist surgery in Dubrovnik (Figure 1). Prior to the start of the research, we contacted general practitioners regarding the research and provided posters on self-examination of skin and pigment changes for their offices. We also instructed them to notify their patients about the research and refer them to a specialist examination in case of noticing suspicious changes. We informed the population through local media about the basics of photoprotection, skin self-examination and invited everyone who notices suspicious changes to apply for a free specialist examination which were scheduled to be held in their local surgeries.

Each examinee filled out a questionnaire stating his/her year of birth, sex, occupation and whether he/she uses skin factor products. All suspect changes were dermatoscope-examined and photo-documented by a dermatologist who referred patient with suspect lesions to further diagnostic and therapeutic procedures. At the end of each examination, examinees were acquainted with the basics of photoprotection. Having finished the field research, we summarised the results and gave several lectures on the islands encompassed by the research for both general practitioners and the local population. We also made the results public through the local media (radio stations, websites and newspapers).

Results

According to the 2001 census, the research area population is 23,754, 1,104 of which were examined (4.65%), with 63% of female population. All age groups were represented in equal measure. The majority of examinees had Fitzpatrick skin type III, while skin type IV was the least represented (only 98 people had it). It was determined that 59% of examinees did not use skin protection products at all, 22% used them occasionally, while only 19% used them regularly (Figure 2). Eight people were diagnosed with malignant melanoma (Figure 3), 43 with basocellular carcinoma, 14 with spinocellular carcinoma (Figure 4) and 144 persons had atypical nevi.

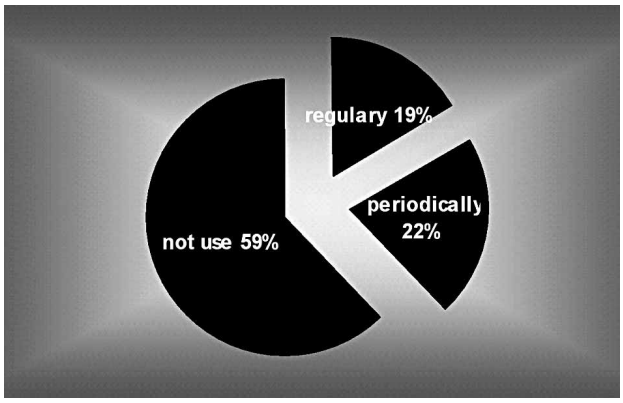

Fig. 2. Distribution of patients according to use of SPF products.

Discussion

The incidence of tumour skin changes has been increasing in recent decades. It is quite likely that one of the causes is the increase in early detection of such changes[10,11]. The »good« side of all skin tumours is that they are visible in all stages and for that reason our goal was to motivate people to detect such changes. Since none of the islands (Korčula, Mljet, Lopud, Šipan, Koločep) nor Pelješac peninsula have a dermatovenerologist office, and with regard to their traffic isolation (especially during winter months) resulting in reduced possibilities of education for the population and general practitioners, we had decided to visit the islands and local surgeries. Additionally, traditional jobs of this region (fishing, wine production) require increased sun exposure which in turn leads to increased chances of suffering from skin carcinoma. Fortunately, we are able nowadays to detect and treat skin tumours in their early stages, primarily melanoma, which can be removed by simple

Fig. 1. The islands in Dubrovnik area.

Fig. 3. Melanoma in our patient.

Fig. 4. Carcinoma spinocellulare in our patient.

surgical methods[11–13]. Our research encompassed more women than men, which does not automatically mean that the incidence of tumour changes and atypical moles is greater in female population; it is more likely that women in this population make visits to doctor more frequently than men and that they were more motivated by the preliminary media campaign.

Based on skin response after 30 minutes of sun exposure, skin types have been divided into six types according to Fitzpatrick: type I where sunburns are bound to occur, and pigmentations never occur; type II where sunburns usually, and pigmentations sometimes appear; type III where sunburns sometimes, and pigmentations always appear, type IV where sunburns occur rarely and pigmentations are particularly strong, type V for dark-skinned people and type VI for black persons[8,9]. Our results have shown that most of the examinees had skin type III, types V and VI were not recorded, as expected[14].

Basocellular carcinoma is the most common type of skin tumour with locally infiltrative growth and low malignant potential which is why it is commonly denoted as »semimalignant«. The incidence of this tumour is increased in countries nearer to the equator. Spinocellular carcinoma occurs more rarely than basocellular carcinoma, and its incidence varies from country to country and even within a population, depending on exposure to carcinogenic agents[8,15,16].

We must point out that even today in our country not all cases are reported and therefore there is no information on their incidence, so we encouraged general practitioners to report tumour skin changes which is legally binding in our country. Our goal was not to determine the incidence of the stated changes – it was primarily to educate the population of the research region as well as local general practitioners.

In the past twenty years the incidence of melanoma has increased from 4 to 8% per year[17]. Only 5% of skin tumours are melanoma, but this type is related to 75% of deaths caused by skin tumours[18]. Melanoma incidence rate is recorded in Croatia and in 2001 it was 10.7 (men 11.1, women 10.3). Geographical variations in the incidence rate have also been recorded with the biggest prevention rate in the regions of Zagreb, Dubrovnik and Zadar[19]. Encouraging is an increased percentage of early diagnosed melanoma in most populations, which contributes to better treatment results and which, in part, incited us to this field research[13, 19].

Regarding melanoma prevention, the most important goal is early detection. Therefore, it is vital to differentiate between nevi with potential for melanoma development and benign nevoid tumours, indicate a dermatoscope examination and, in case of a suspect pigmented lesion, perform an excision or monitoring[20]. Many studies warn about moles as risk factors for the emergence of melanoma so that it is an accepted fact nowadays that more nevi mean more risk from melanoma. A lesser number of studies deal with nevi types (typical/atypical)[19,21]. The removal of developing or changing lesions and ABCDE monitoring every six months in persons with high risk from melanoma are also important in the prevention of the illness since melanoma thinner than 0.75 mm are almost 100% curable[17]. For our research, we marked as atypical nevi all those which conformed to the ABCDE criteria and the sample analysis of which showed asymmetrical pattern and pigmentation. We advised that such nevi are excided with an obligatory pathohistological finding. In addition, due to the localisation of some pigmented nevi and their constant exposure to trauma, we advised prophylactic excision.

Using sun protection factor creams (SPF) is the front line of the prevention of skin tumours. However, if people think that using such products enables longer sun exposure and healthy complexion, risk from skin tumour increases. When talking about prevention, we must primarily point out the necessity of wearing clothes as a protection and avoiding sun exposure[22–25].

Through our research we found that 59% of examinees do not use skin protection products, not even sunglasses, hats or clothes. It is interesting to note that 22%

of them use SPF creams and occasionally clothes because they think that protection is necessary only on beach, but not during fishing or vineyard work, which are the most common job activities in this population, which conforms to some bibliographical data[14,26]. Jones et al. in their Irish study have shown that less than 20% examinees uses sun protection creams regularly, and no less than 30% examinees uses solariums[26].

Furthermore, our observations have shown that most examinees did not know what sun protection factors are and how to select a proper one. Most of them use low sun protection factor creams since they think that otherwise they cannot get a suntan. A large portion of examinees were of the opinion that sun is not so dangerous like »everybody says«, which can explain a significantly large percentage of people not using SPF creams. Recent studies have shown that SPF creams do not protect from melanoma; apparently, they even help prolonging sun exposure: more frequent holidays, solarium visits, ski trips, exotic travels and similar, which actually increases the risk of melanoma. This can be called »lifestyle« risk[14,15,24,27]. Sunburns in any stage of life double the risk of melanoma[19]. Information gained from our research has convinced us that intensive activity in the field of informing and educating the population regarding sun protection is necessary on the Dubrovnik region islands, something which many authors point out in their studies on various populations[2,10,14,26,28, 29].

Conclusion

We can conclude that due to increasing sunlight exposure, geographical position and job activities in this region, further education is required for both general practitioners and population in order to diagnose stated changes as early as possible. Bearing in mind that not all cases are reported, we cannot show accurate incidence information and in light of that fact, we point out that reporting malignant neoplasm is a legal obligation of every general practitioner in our country. It is interesting to note that, in spite of a strong media campaign, people still do not take warnings about harmful effects of sun exposure seriously and that they still expose themselves to sun without care or control, disregarding adequate protection measures.

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EDUKACIJA POPULACIJE O VAŽNOSTI FOTOPROTEKCIJE: REZULTATI ISTRAŽIVANJA NA OTOCIMA U DUBROVAČKOJ REGIJI

S A Ž E T A K

Uočivši povećani trend pojave karcinoma kože kao i nekoliko smrtnih slučajeva iznimno mladih osoba na području Dubrovačko-neretvanske županije, napravljeno je terensko istraživanje na tom području u razdoblju od 2003. do 2007. godine. Specijalistički dermatovenerološki pregledi obavljeni su u ambulantama liječnika opće prakse na otocima u dubrovačkoj regiji (Korčula, Mljet, Lopud, Šipan, Koločep te na poluotoku Pelješac). Cilj istraživanja bio je utvrditi eventualnu prisutnost karcinoma kože te kod dijagnosticiranih preporučiti daljnje terapijske postupke, odrediti tip kože po Fitzpatricku, utvrditi koliko i kako se upotrebljavaju sredstva sa zaštitnim faktorom, educirati populaciju u navedenim područjima, ali prema rezultatima istraživanja educirati i liječnike primarne zdravstvene zaštite. Uprkos jake medijske kampanje, ljudi i dalje ne shvaćaju upozorenja o štetnom djelovanju Sunca i više od polovice ispitanika ne koristi sredstva sa zaštitnim faktorom (SPF). Može se zaključiti da je potrebna bolja edukacija populacije u ovom području o štetnim učincima ultravioletnog zračenja kao i daljnja edukacija kako se pravilno od njih zaštititi.