

# Psychological Status and Illness Perceptions in Patients with Melanoma

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## ABSTRACT

*A diagnosis of cancer and its treatment can create considerable distress, anxiety and depression for both patients and their families. The emotional impact of melanoma can be long lasting and profound, although the data in this field is inconsistent. Our last study showed that melanoma has a medium influence on patients' psychological status and quality of life. The aim of this paper was to investigate illness perceptions in patients with melanoma and its correlations with quality of life and emotional status. 60 patients suffering from malignant melanoma were included in the study. Results of this study show that patients perceive melanoma as a relatively long lasting illness, relatively easy to control, but hard to cure; and as an illness with not many consequences to their health. The causes of melanoma as perceived by patients are exposure to sun, heredity, immunity and stress. Illness perceptions are correlated with patients' quality of life, the influence illness has on the quality of life and depression.*

**Key words:** melanoma, illness perceptions, quality of life, psychological status

## Introduction

Melanoma is a malignant tumor of melanocytes and is considered to be one of the most malignant forms of skin cancer. It is characterized by the tendency of early lymphogenous and homatogenous metastases, with somewhat low local agresivness<sup>1</sup>.

Melanoma mostly occurs at the age of 50, except for the lentigo maligna melanoma for which the mean age at presentation is early in the seventh decade. Lately, melanoma is more often diagnosed in younger patients, between 25 and 44 years of age. Melanoma is rare prior to puberty (0.3–0.4% of all melanomas), but when it does occur, about 50% of cases arise in giant congenital naevi, or in patients with dysplastic naevi syndrome<sup>2</sup>.

Annual incidence of melanoma in Croatia is 11.5 new cases per 100.000 people. From 1960 to the present time there has been a steady rise in the incidence of melanoma in all parts of the world. In Croatia, the incidence of melanoma has increased 310% in the last 40 years, with 580 newly diagnosed melanomas in 2005<sup>3</sup>. In Europe, the gender incidence shows a slight female preponderance (in some studies even up to 50%), which is not found in USA. Even though melanoma is less frequent in men, numerous studies show better survival rates for women<sup>4</sup>. This might be due to the fact that women tend to pay

more attention to their appearance, thus noticing the changes on their skin sooner and contacting the dermatologist while the melanoma is still in an early stage.

Early detection is the key factor for good prognosis<sup>4</sup>. The sooner the melanoma is excised, the depth and the thickness of the tumor are lower and 5 year survival rates are higher. In tumors less than 1 mm thick, 5 year survival is 95–100%, from 1 to 2 mm – 80 to 95%, 2.01 to 4mm – 60 to 75%, and above 4 mm survival rate is only 50%<sup>1</sup>. In the countries with strong public health campaigns over the last 20 years, such as Australia and USA a large number of newly diagnosed melanomas is thinner than 1mm and 5 year survival rate is around 90% for men and 95% for women<sup>5,6</sup>. A 5 year survival rate in Croatia is around 70% and the average thickness on the newly diagnosed melanoma is 2.3 mm<sup>2</sup>.

Melanoma is a serious, potentially lethal illness which can have a strong, long lasting influence on the patient's psychological status, and can even result in the post traumatic stress disorder<sup>7–9</sup>. Most common psychological reactions to melanoma include: anxiety, depression, decreases in self-esteem and social isolation, together with the decrease of quality of life<sup>10,11</sup>. Interestingly, not all studies show such a strong influence of melanoma on pa-

tients' emotional status. In our last study we showed that melanoma has only a medium influence on patients' psychological status and quality of life<sup>9</sup>. We explained this mild influence by their coping style – problem focused coping and we made a hypothesis that illness perceptions could also have a significant influence on the emotional reaction.

Numerous studies in the field of health psychology confirmed great differences in the individuals' reaction to illness. Some patients cope well and illness has a relatively little impact, while others have major problems and cope in ways which may exacerbate illness outcome. Even though it would be logical to conclude that the intensity of the emotional reaction will depend on the seriousness of the illness, it is interesting to note that there is no correlation between those two factors. For some patients even a mild, relatively benign illness can be a significant psychological burden, while for the others a potentially lethal illness is perceived as a challenge and doesn't result in a strong emotional reaction. Even though the first explanation for this was the difference in personality traits, research showed no logical connection between personality and reaction to illness<sup>12</sup>. Nowadays the main focus in explaining the intensity of the emotional reaction is on the cognitive approach and the paradigm of illness perceptions. Cognitive approach in health psychology puts the main emphasis on the patients own model of their condition. Just as people construct representations of the external world to explain and predict events, patients develop similar cognitive models of the bodily changes that reflect either transient symptoms or more long term illness<sup>12</sup>. Leventhal developed a self-regulatory model in which he explained illness perceptions patients develop in order to make sense of their experience and provide a basis for their coping and emotional reaction. He described five core components that comprise illness perceptions: beliefs about etiology of the illness, its symptoms and label, the personal consequences of the illness, how long will it last and the extent to which it is amenable to control or cure<sup>13</sup>. These components are logically inter-correlated. Research has showed that illness perceptions may explain coping responses and emotional distress caused by the illness. Lately it was also confirmed that illness perceptions are directly related to adherence to treatment and health protective behaviours<sup>13</sup>. So far, the correlations between illness perceptions and quality of life, adjustment to the disease and adherence to medication have been confirmed in research on patients with diabetes, Addison's disease, rheumatoid arthritis and on cardiac patients<sup>14,15</sup>. Perception of melanoma hasn't been described in literature so far.

The aim of this paper was to investigate illness perceptions in patients with melanoma and to investigate correlations between illness perceptions and quality of life and the influence illness has on quality of life in patients with melanoma. Potential differences according to the gender and severity of the disease were also points of interest in this study.

## Materials and Methods

The study was conducted at the Department of Dermatovenereology. Sixty patients, 26 men and 34 women, suffering from malignant melanoma were included in the study. During one of the regular check-ups after the excision of melanoma patients were invited to participate in the study. Consenting participants completed the following questionnaires: General questionnaire, Brief illness perceptions questionnaire, Subjective quality of life questionnaire, Impact of illness on the quality of life and Beck Depression Inventory.

*General questionnaire* consists of 16 questions concerning age, gender, marital status, education, employment and medical history (time of diagnosis of melanoma, Clark and Breslow levels, results of the sentinel biopsy, family history of melanoma, history of burns, unprotected sun exposure and use of solarium, other illnesses and use of medicines).

*Brief Illness Perceptions Questionnaire*<sup>16</sup> (Brief IPQ) is a nine-item scale designed to rapidly assess the cognitive and emotional representations of illness. It was developed by Broadbent, Petrie, Main and Weinman in 2006 to assess the five cognitive illness representations (identity, cause, timeline, consequences and cure/control) and one emotional representation on a five point Likert scale.

*Subjective quality of life* is measured on a simple visual analogue scale ranging from 1 to 10 (the most widely used general quality of life measure).

*The impact of illness on the quality of life* is measured using a simple visual analogue scale ranging from 1 to 10.

*Beck Depression Inventory* (BDI)<sup>17</sup> is used to assess depressive symptoms. BDI is a widely used clinical and research instrument developed by A. T. Beck in 1961, revised in 1996. It is a 21 item self-report rating inventory measuring characteristic attitudes and symptoms of depression. The scores range from 0 to 63, with the higher scores indicating a higher level of depression. Scores over 30 indicate a clinical depressive disorder.

Statistical analysis was conducted using SPSS, version 12. Descriptive statistics were calculated for all variables, Student t-test was calculated to determine the differences between groups and Pearson's correlations were calculated to determine the relationships between variables.

## Results

Sixty patients, 26 men and 34 women, suffering from malignant melanoma were included in the study. Participants were 29 to 74 years old, with the average age being 52 years. Most of the patients were married (82%), others were single (4%), divorced (4%), widows (6%) or living with a partner (4%). Most of the patients had secondary education (45%) or a university degree (41%). Majority of the patients were still working (59%). The duration of illness ranged from 1 to 14 years, with the average being 3 years. Clark levels ranged from 1 to 5 ( $3.07 \pm 0.94$ ) ( $X \pm SD$ ). Breslow levels in millimeters ranged from 0.26 to 11 ( $2.28 \pm 1.98$ ) ( $X \pm SD$ ).

Patients perceive melanoma as an illness with not many symptoms  $2.10 \pm 2.62$  ( $X \pm SD$ ), having mild consequences  $4.47 \pm 2.92$  ( $X \pm SD$ ), relatively long lasting  $5.37 \pm 3.75$  ( $X \pm SD$ ), relatively easy to control  $6.00 \pm 3.15$  ( $X \pm SD$ ), but relatively hard to cure  $3.90 \pm 2.86$  ( $X \pm SD$ ). Patients feel that they understand their illness relatively well  $7.72 \pm 2.17$  ( $X \pm SD$ ), with illness causing mild concern  $4.37 \pm 2.28$  ( $X \pm SD$ ) and having mild influence on their emotional state  $4.13 \pm 2.91$  ( $X \pm SD$ ). There are significant differences between men and women in symptoms, understanding and the influence on emotional state. Women understand their illness better, have more symptoms and the illness has more influence on their emotional state than in men.

Subjective quality of life ranged from 3 to 10, on a 1 to 10 scale. The quality of life was  $7.14 \pm 2.03$  ( $X \pm SD$ ). The impact of the illness on quality of life ranged from 1 to 10, on a 1 to 10 scale, with 1 meaning no impact at all and 10 meaning the highest possible impact. The impact was  $4.06 \pm 2.63$  ( $X \pm SD$ ). There are no differences between men and women in the subjective quality of life, or in the impact melanoma has on patients' quality of life.

Patients' total score on the Beck Depression Inventory was  $9.21 \pm 8.97$  ( $X \pm SD$ ) with the minimum of 0 and maximum of 42. Most of the patients had results indicating minimal number of depressive symptoms (78%), and 14% patients had mild or moderate depression. Five patients (8%) had a score indicating a severe depressive symptomatology. Women were significantly more depressed than men ( $t = 3.57$ ;  $df = 58$ ;  $p < 0.05$ ).

Illness perceptions are correlated with several aspects of illness: Clark level is correlated with the perception of symptoms ( $r = 0.43$ ;  $p < 0.05$ ) – patients with higher Clark level feel more symptoms, while the sentinel biopsy is correlated with the perception of the duration ( $r = 0.41$ ;  $p < 0.05$ ) and the influence illness has on the emotional state ( $r=0.40$ ;  $p<0.05$ ) – patients who underwent sentinel biopsy think their illness will last longer than patients who didn't, and they perceive their illness as having more consequences on their emotional state.

Illness perceptions are also correlated with different aspects of psychological status. Perceived consequences are significantly correlated with the influence the illness has on patient's quality of life ( $r = 0.59$ ;  $p < 0.05$ ) – the more serious the consequences patients perceive the more influence the illness has on the quality of their life. The perception of the duration of melanoma is significantly correlated with the result on the Beck Depression Inventory ( $r = 0.50$ ;  $p < 0.05$ ) – the longer patients think the illness will last the more depressive symptoms they have. The more symptoms patients perceive the stronger influence melanoma has on the quality of life of our patients ( $r = 0.47$ ;  $p < 0.05$ ) and the higher result on the BDI ( $r = 0.53$ ;  $p < 0.05$ ). The more patients are worried about their illness the stronger influence melanoma has on quality of life ( $r = 0.63$ ;  $p < 0.05$ ). Perceived influence on the emotional state is significantly correlated with quality of life ( $r=-0.37$ ;  $p<0.05$ ), with the influence illness has on quality of life ( $r = 0.62$ ;  $p < 0.05$ ) and with

the result on the BDI ( $r = 0.42$ ;  $p < 0.05$ ). The stronger patients perceive the influence of melanoma on emotional state, they have lower quality of life, illness has stronger influence on quality of life and patients are more depressed.

## Discussion

This study describes illness perceptions, quality of life and depression in patients with melanoma. Patients perceive their illness as relatively long lasting ( $X=5.37$ ), relatively easy to control ( $X=6.00$ ) and somewhat harder to treat ( $X=3.90$ ), as an illness with not many symptoms ( $X=2.10$ ) and having relatively little influence on their life ( $X=4.47$ ). Main causes of melanoma, as perceived by patients are sun exposure, heredity, immunity and stress. Perception of causes is surprisingly correct: the best known cause of melanoma is exposure to UV rays, especially sunburns in childhood<sup>2</sup>. Melanoma has a strong genetic component<sup>2</sup>, and is also considered one of the immunogenic tumors, meaning that there is a higher risk of developing melanoma in immuno-compromised patients<sup>18</sup>. The role of stress in tumor development is not well explained yet, but there are several theories indicating its potentially important role. The average quality of life in our patients was 7.14 as measured on a 1 to 10 scale. In most of the studies using the same quality of life scale on a healthy population, the average quality of life is usually around 7 or 8<sup>19</sup>. Our results show that melanoma had a relatively small impact on patients' quality of life ( $X=4.08$ ). Given the potential for lethality, it would be reasonable to expect a stronger impact of melanoma. Relatively mild reaction to illness could be explained with somewhat wrong perception of melanoma – since patients perceive melanoma as an illness that is relatively easy to control and only mildly hard to cure, and not having too many consequences on their health, it is not surprising that their emotional reaction to melanoma is not strong. Our results confirm the correlation between illness perceptions and quality of life – quality of life is lower in patients who perceive their illness as having more influence on their emotional state. The influence illness has on quality of life is correlated with perceived consequences, symptoms and emotional state – in patients who perceive melanoma as an illness with more serious consequences, who perceive more symptoms and who worry more about their illness, melanoma has a stronger influence on their quality of life.

A common reaction to malignant diseases, including melanoma, is depression<sup>20,21</sup>. Among our patients, only five of them had a result indicating clinical depression with most of the patients showing only mild depression. This result might also be partly explained by illness perceptions. The result on Beck Depression Inventory is correlated to perception of illness duration, perception of symptoms and influence of melanoma on emotional state. The longer patients think melanoma will last, the more symptoms they perceive and the stronger the influence on emotional state melanoma has, they are more de-

pressed. Since most patients don't perceive many symptoms, see melanoma as moderately long lasting and melanoma has a mild influence on their emotional state – depression is rare in melanoma patients.

An average result on BDI among our patients indicated only a minimal number of depressive symptoms ( $X = 9.21$ ), with 15 patients having a result lower than 4, which is according to some authors considered as a simulation<sup>22</sup>. This result, as well as the already mentioned somewhat wrong perception of melanoma and a mild influence on quality of life, could be connected to denial. It was suggested in previous research that patients with malignant melanoma denied being anxious<sup>23</sup>. Kneier and Temskhok<sup>23</sup> showed physiological evidence of the patients' anxiety (electrodermal activity) despite their reports of the contrary. They described this phenomenon as a Type C personality style, characterized by passivity and the suppression of negative emotions, which was often described as a potential predictor for cancer.

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## Conclusion

Malignant melanoma has a medium influence on patients' psychological status and quality of life. Patients perceive melanoma as melanoma as an illness with not many symptoms, having mild consequences, relatively long lasting, relatively easy to control, but relatively hard to cure. Patients feel that they understand their illness relatively well, with illness causing mild concern and having mild influence on their emotional state. The most important causes of melanoma perceived by patients are: sun exposure, heredity, immunity and stress. Somewhat wrong perception of melanoma can result in a mild emotional reaction to illness which might seem as a good reaction, but realistic view of the illness is important for patients in order to develop healthy coping behaviors and treatment approach. Also, even though a mild emotional reaction is easier for patients in the beginning, it is much harder for patients to cope once the unexpected negative consequences of the illness arise.

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## PSIHOLOŠKI STATUS I PERCEPCIJA BOLESTI U BOLESNIKA S MELANOMOM

### SAŽETAK

Dijagnoza bilo kojeg tumora može biti izvor visoke razine stresa, te uzrok tjeskobe i depresije, kako kod bolesnika tako i kod njihovih obitelji. Emocionalni utjecaj melanoma može biti značajan i dugotrajan, iako u ovom području postoje različiti nalazi. U prošloj studiji istih autora potvrđen je tek relativno blag utjecaj melanoma na kvalitetu života i depresivnost. Cilj ovog rada bio je ispitati percepciju melanoma od strane bolesnika, i povezanost percepcije bolesti sa kvalitetom života i depresijom. U ovom istraživanju sudjelovalo je 60 bolesnika s melanomom koji se liječe u Referentnom centru za melanom Ministarstva zdravstva i socijalne skrbi RH. Rezultati ove studije pokazali su da bolesnici melanom doživljavaju kao bolest koja relativno dugo traje, relativno se lako kontrolira, ali nešto teže liječi, te ima slab utjecaj na život i zdravlje. Bolesnici kao najvažnije uzroke melanoma vide izlaganje suncu, naslijeđe, imunitet i stres. Percepcija bolesti povezana je s kvalitetom života, utjecajem koji bolest ima na kvalitetu života i s depresijom.