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Psychological Reactions in Public Melanoma Screening

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Participants in public screening for malignant melanoma (n = 190) completed a questionnaire containing items regarding cognitive and emotional responses to skin examination on two occasions, before screening and 7 months later. The results suggest subjective susceptibility to melanoma in participants in public screening, especially in women. No increase in psychosomatic problems, anxiety or depressive symptoms or signs of "false security" were seen as an effect of the screening, neither in the total sample nor in those who at the screening were recommended further medical procedures.
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INTRODUCTION

THE RECENT INCREASE of incidence and disease related mortality in malignant melanoma in Sweden [1] have led to the implementation of efforts to prevent the disease through information campaigns and screening programmes.

The cost–benefit of public screening as a method for reducing the incidence of melanoma has been debated [2, 3, 4]. A skin cancer screening programme, organised by the Swedish Cancer Society, was offered to the public one weekend in September 1990, with cost–benefit evaluation as one of the purposes. The public was invited to a skin examination through television, radio and newspapers. Skin examinations were organised with the participation of about 30 oncology or dermatology clinics in Sweden. At the screening, individuals with suspected lesions were recommended further medical procedures.

Our previous findings of low levels of psychological and psychosomatic problems in a study of melanoma families [5] with an objectively increased risk for melanoma, led to an interest to study participants in public screening, who may attend due to a subjective risk for the disease. In several studies, "susceptibility to disease" has been found to be an important factor influencing participation in screening programmes [6–8]. An individual is more likely to take action to prevent disease if he or she believes he or she is personally susceptible to it. These findings support the assumption of a subjective susceptibility for melanoma in participants in public screening. In the present study, "susceptibility" is operationally defined as interest in naevi. Indirect measures of susceptibility are medical consultations and sick-listed time, sleeping problems, psychosomatic complaints, anxiety and depressive symptoms. We assume that participants recommended further medical procedures would show higher levels of psychological and psychosomatic problems than those who were released after the screening.

In a study of anxiety and depressive symptoms in 273 individuals at different stages of malignant melanoma, women showed higher levels of anxiety than men [9]. Sex differences in participants in melanoma screening may be of particular interest, since the melanoma incidence shows a steeper increase in men than in women [10]. One possible explanation is that women inspect their bodies more often, are more interested in their naevi, experience themselves to be more susceptible to the disease, and are therefore likely to take earlier action by having premalignant lesions removed.

The present study describes participants' psychological and psychosomatic responses at the screening and compares them with responses after 7 months. Also, sex differences in psychological and psychosomatic responses are studied. Finally, we compare those who after skin examination were suggested further medical procedures with those who were not.

METHOD

Subjects

A sample of 290 (36%) of 808 participants during one weekend in the public skin examination programme at the Department of General Oncology, Radiumhemmet, received questionnaires. No differences were found with respect to age, sex or medical findings at the screening between those receiving questionnaires and those who did not. 190 participants (65.5%), consisting of 112 women and 78 men between 20 and 70 years of age (mean 50) were included. The remaining 100 were under 20 or over 70 years of age. 165 (87%) returned a mailed questionnaire 7 months later. As a result of the screening, further medical procedures were recommended for 37 (19.5%) of those included in the study.

Procedure

The participants completed the questionnaire at the visit, before the medical examination and received a mailed questionnaire 7 months later. The questionnaires were administered to 100 consecutive participants who attended the clinic after 9.00 a.m., to 100 who attended after 1.00 p.m. on Saturday and to 90 who attended after 10.00 a.m. on Sunday. These points in time were chosen in order to achieve a more representative sample with respect to age. It was found that many elderly arrived early in the morning, while younger persons tended to arrive later in the day. Participants received numbered questionnaires together with written instructions at the arrival to the oncology clinic. They were instructed to complete the questionnaire before the

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skin examination and to leave it in one of three boxes. Lists identifying questionnaire code and name of respondent were kept separated from questionnaires.

Questionnaire

The questionnaire contained a total of 51 items, grouped as follows:

Interest in naevi. "Are you interested in your naevi?", five response categories with scores from 0 ("not at all") to 4 ("very much").

Medical consultations. "How many times have you consulted a physician during the last 6 months?", five response categories.

Sick-listed time. "How many times" and "for how many days have you been home from work due to illness during the last 6 months?", four and five response categories, respectively.

Sleeping problems. "Tiredness" (three items dealing with difficulties to wake up, not feeling thoroughly rested, and tired at work). "Sleep disturbances" (five items regarding insomnia, repeated awakenings during the night, restless sleep and nightmares). Scores from 0 to 5: "almost never" to "every night".

Psychosomatic complaints. A list of 17 items concerning somatic complaints (weariness, physical condition, pain, infections, difficulties to concentrate, problems with memory, overall sleep disturbances, loss of appetite, non-ulcus dyspepsia, dizziness, headache, nausea, shoulder pain, heart palpitations, muscle tension and sweating) during the last week, with scores from 0 ("not at all") to 4 ("very much"). In order to test the homogenity of this variable, the Cronbach α coefficient [11] was calculated ($\alpha = 0.91$).

Anxiety and depressive symptoms. The Hospital Anxiety and Depression Scale (HAD) [12] designed for the purpose of detecting anxiety and depressive problems in somatically ill patients visiting medical hospital out-patient clinics, was included in the questionnaire. The HAD scale is composed of 14 items, 7 for anxiety and 7 for depression with scores 0–3. It has been found to be a valid instrument [13, 14, 15].

Data concerning extended medical procedures. These were collected from patient files.

Statistical methods

χ^2 test [16] was employed for evaluating between-group differences in "sick-listed time" and "medical consultations". Analyses of variance (repeated measures) were performed to test sex differences, differences between points of assessment, and their interaction with respect to "interest in naevi", "sleeping problems", "psychosomatic complaints" and "anxiety and depressive symptoms". Analyses of variance (repeated measures) were conducted to compare participants who were suggested further medical procedures with those who were not.

RESULTS

Interest in naevi

The number of persons choosing each response alternative is presented in Fig. 1 (88–97% responders).

There were significant differences between the score distributions at the two assessments (χ^2, degrees of freedom = 8, $P < 0.001$). The interest in naevi remained at the same level at both points of assessment in 76 participants (47%), while it decreased in 45 participants (28%) and increased in 42 (26%). Further analysis indicates that among those whose interest in naevi changed, the majority (89%) of participants who were "not at all" or "little" interested increased their interest from the first to the second assessment, while the opposite was true for those who were initially "very much" or "much" interested in their naevi (81%). 8 participants (4%) reported not being interested in their naevi at the first visit and 5 (3%) did so after 7 months. Women were significantly more interested in their naevi than men (mean scores 2.2 for women and 1.7 for men at both points of assessment) [$F(1,182) = 10.10, P < 0.01$].

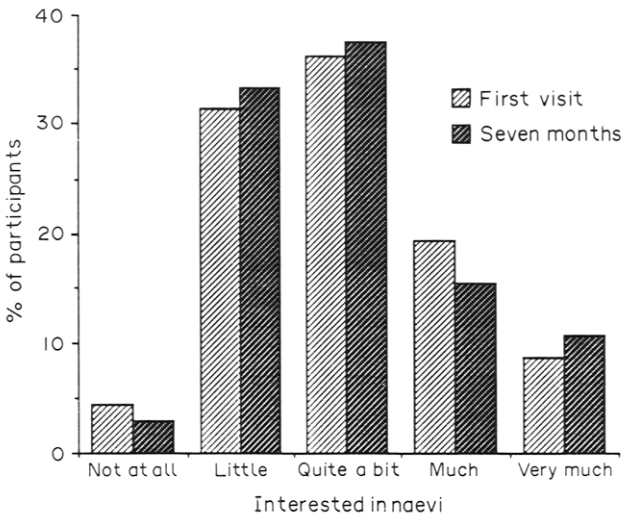

Fig. 1. "Are you interested in your naevi?" Proportions of individuals responding in five categories at two points of assessment.

Medical consultations

180 participants (95%) completed this item at the first visit and 168 (88%) after 7 months. 56% of the participants at the first visit, and 50% after 7 months reported visiting a physician during the last 6 months. Women had paid significantly more visits than men at the first visit ($\chi^2, P < 0.05$), but there was no difference after 7 months.

Sick-listed time

No differences were found.

Psychosomatic variables

Means for men and women separately on variables "sleep disturbances", "tiredness", "psychosomatic complaints", "anxiety" and "depressive symptoms" are presented in Table 1.

Table 1. Means on psychological and psychosomatic variables for men and women at two assessments

	First visit		7 months			
Variables (max scores)	Women	Men	Women	Men	P*	P†
Sleep disturbances (4)	1.10	0.93	1.12	0.92	N.S.	N.S.
Tiredness (4)	1.17	0.75	1.38	0.88	$P<0.01$	$P<0.01$
Psychosomatic complaints (5)	0.60	0.45	0.62	0.40	$P<0.01$	N.S.
HAD Anxiety (21)	4.92	3.42	4.75	3.51	$P<0.01$	N.S.
HAD Depression (21)	2.89	2.88	3.24	2.91	N.S.	N.S.

n = 190, 80–87% responders; *P-value for sex-differences; †P-value for differences between points of assessment; Group × assessment interaction non-significant throughout.

Sleep and tiredness. The overall means were 1.0 at both assessments for "sleep disturbances", and there was no difference between men and women. An increase in "tiredness" was found from the first (mean 1.0) to the second assessment (mean 1.2) [$F(1,152) = 8.59$, $P < 0.01$]. Women reported more tiredness than men [$F(1,153) = 9.91$, $P < 0.01$].

Psychosomatic complaints. The means for the total group on the combined variable were relatively low, 0.5 on both assessments (scale 0–4). Women scored higher than men [$F(1, 158) = 5.31$, $P < 0.01$]. The most common single somatic complaint with the highest mean was weariness: 70% at the first visit (mean 1.1) and 72% at the second assessment (1.2) had felt weary during the last week. 56% at the first visit (1.0) and 65% after 7 months (1.0) indicated problems with physical condition. The least common complaints, reported by about 10–15% at both assessments concerned loss of appetite, nausea and non-ulcus dyspepsia (<0.26).

Anxiety. No difference was found between points of assessment with overall means 4.3, at the first visit, and 4.2, 7 months later. Women scored higher than men on the HAD anxiety subscale [$F(1,163) = 6.99$, $P < 0.01$].

Depressive symptoms. There were no differences between points of assessment or sex regarding depressive symptoms. Overall means were 2.9 at the first visit and 3.1 after 7 months.

Comparison between those recommended further medical procedures and those who were not

The assumption was that those recommended medical procedures would score higher on the psychological and psychosomatic variables than those who were not. Contrary to expectations, there was only one significant between-group difference. Individuals recommended medical procedures were more interested in their naevi both at their first visit (mean 2.2) and 7 months later (2.3) as compared to those not recommended (means 1.9 and 2.0) [$F(1,162) = 5.13$, $P < 0.05$]. Neither group showed any change over time. There were approximately equal proportions of men and women in both groups.

DISCUSSION

The assumption of a heightened susceptibility in participants in melanoma screening was supported by the higher interest in naevi expressed by the participants (mean 2.0) compared to the figures (1.1–1.7) for individuals with hereditary risk in an earlier study [5]. Another sign of susceptibility is the higher mean scores on the HAD scale (4.2–4.3 for anxiety and 2.9–3.1 for depression) compared with those (3.3 for anxiety and 2.2 for depression) in an Icelandic study of healthy employees in a large business company [17]. The means on the depression subscale in the present study were higher than those for individuals with hereditary risk participating in melanoma screening and for melanoma patients, stage I (2.4 for both groups) [9], whereas the anxiety means in the total sample are below those for individuals with hereditary risk and for melanoma patients (4.6 for both groups) [9].

There is no reason to believe that participation in screening caused the feeling of susceptibility, since only one of the psychosomatic variables tested showed any change over time. Scores on tiredness increased, probably due to the season changes between the two points of assessment. The screening took place in September, and the second questionnaire was completed in April.

Considerable sex differences were found on variables "interest in naevi", "medical consultations", "tiredness", "psychosomatic complaints" and "anxiety", with higher scores among women. A higher mean score in women on the HAD anxiety subscale but no sex difference on the depression subscale were also found in our previous study of anxiety and depression at different stages of malignant melanoma [9]. Women were more likely than men to have sought medical services before the first visit. This, together with the higher interest in naevi found in women, increases the likelihood that premalignant lesions are detected in women. No decrease in medical consultations was seen between assessments, which indicates that the screening procedures did not lower the willingness to seek further medical consultations.

Contrary to expectations, no differences regarding the psychological and psychosomatic variables were found between those recommended medical procedures and those who were not. The second questionnaire was administered 7 months after the screening procedure when the medical procedures had been carried out for those recommended at the screening. There is reason to suspect that the levels of problems found in this group had been higher if the questionnaires had been administered earlier. In a study of women participating in breast cancer screening and who were found to be false positives, high levels of emotional problems were found 3 months after the medical procedures even after they had learned that they did not have cancer [18]. In a study of mass screening for cervical cancer, Reelick *et al.* [19] found psychological side-effects among women with positive smears, but these problems were neither serious nor lasting.

The interest in naevi decreased in those who were initially very concerned about their naevi and increased in those who were not so interested. This indicates that those who were very concerned about their naevi were reassured, while those not so interested learned to pay more attention to their naevi. Those who were recommended further medical procedures showed more interest in naevi at both points of assessment than those who were released after the screening. This is consistent with the results from a study of 523 participants in a skin-cancer screening one weekend in New York in 1985 [6]. A significant association was found between prescreening reports of high-risk perceptions and the subsequent discovery by physicians of malignant or premalignant lesions. In the present study, the interest in naevi among those recommended medical procedures was maintained over time. Thus, there is no reason to believe that the screening procedures result in false security regarding skin lesions. On the contrary, the interest in naevi was reinforced and the probability of detecting other premalignant lesions and seeking medical services increased.

The assumption of subjective susceptibility to disease in participants in melanoma screening was supported. No signs of psychosomatic problems, anxiety or depressive symptoms, or of "false security" were seen as a result of the screening and subsequent medical procedures. Considerable sex differences were found, indicating a need for sex-specific approaches in screening and information concerning malignant melanoma.

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Oral Tegafur in the Treatment of Metastatic Breast Cancer: A Phase II Study

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Between February 1985 and October 1989, 26 patients previously treated for metastatic breast cancer received oral tegafur, at a median daily dose of 1200 mg. Of these, 21 were evaluable for response. The overall response rate was 29%; six (two in lungs, two in skin and two in lymph nodes) of 44 evaluable lesions (14%) responded to therapy. Haematological toxicity was mild, and no other dose-limiting toxicity was seen. The data indicate some activity in heavily pretreated metastatic breast cancer even after previous 5-FU therapy.
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INTRODUCTION

THE FLUOROPYRIMIDINES are one of the most useful groups of antineoplastic agents in clinical oncology with demonstrated activity against different tumours [1]. Tegafur (TG), a tetrahydro-2-furanyl derivate of 5-fluorouracil (5-FU), has shown in clinical studies antineoplastic activity comparable to that of 5-FU against several tumours, including breast cancer [2]. It acts as a depot form of 5-FU and compared to 5-FU produces little myelosuppression [1]. After intravenous infusion of TG the circulating concentrations of 5-FU are low (less than 0.1 mg/ml), suggesting that conversion to 5-FU may occur predominantly in tumour cells and the liver and that the circulating level of 5-FU may not adequately reflect the extent of this conversion [3]. High dose (2–5 g/m^2) infusion of TG is, however, often associated with severe gastrointestinal and neurological toxicity, which makes the drug unsuitable for repeated intravenous use [2]. Oral TG at a daily dose of 1000–1500 mg/m^2 causes only mild or moderate neurological and gastrointestinal toxicity in about 10–20% of patients, indicating that the oral route is more suitable for clinical use than intravenous infusion [4]. We, therefore, conducted a phase II study with oral TG in a heavily pretreated group of patients with metastatic breast cancer.

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PATIENTS AND METHODS

The eligibility criteria for the present study were histologically confirmed metastatic breast cancer, measurable lesions in one or two dimensions, age <75 years, performance status (Karnofsky index) ≥60, life expectancy >6 weeks, white blood cell count >2.0 × 10^9/l, platelets >120 × 10^9/l, and haemoglobin >100 g/l, serum creatinine <130 μmol, and serum glutamic-oxalacetic transaminase <3 × upper limit of the normal range. At least one systemic treatment, either endocrine treatment or chemotherapy, had been applied, and the disease was in a progressive