




Second opinion and self-efficacy in German skin cancer patients

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Summary

Background: The global incidence of skin cancer has steadily increased in recent years. Accordingly, patients require information on diagnosis and treatment options while dealing with the perceived impact of the diagnosis. In 2015, the German government enacted legislation under the Social Code (SGB V, § 27b), granting patients the right to obtain a second medical opinion.

Patients and Methods: Utilizing a standardized questionnaire, our study aims to explore whether patients diagnosed with skin cancer actively pursue a second medical opinion and to evaluate any potential disruptions to their daily lives. We collected a total of 714 completed questionnaires.

Results: The majority of those seeking a second opinion were diagnosed with malignant melanoma (96, 58%). Primary motivations for seeking a second opinion included seeking reassurance regarding treatment decisions and obtaining further information. Additionally, seeking a second opinion was correlated with a significantly lower internal locus of control, indicating a belief that their actions are not solely determined by their own abilities. Notably, we observed a greater impairment of daily life among younger participants and those with advanced cancer.

Conclusions: Overall, our study shows that second opinions often strengthened the patient-physician interaction and provided additional reassurance, especially in patients with a weak perception of control. Moreover, we found that the impairment of quality of life and both internal and external locus of control decrease significantly in advanced tumor stages. Hence, it is imperative to identify additional interventions aimed at bolstering internal resilience and locus of control, thereby enhancing patients' capacity to cope with their cancer diagnosis.

KEYWORDS

decision making, second opinion, Skin cancer, treatment

Henner Stege, Sara Schneider, Jutta Huebner and Carmen Loquai contributed equally to this work.

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INTRODUCTION

The incidence of skin cancer has increased dramatically in the past decades; melanoma and non-melanoma skin cancer have one of the fastest-growing incidence rates among all malignant tumors in the Western world.^{1,2} Hence, more patients must be informed about their diagnosis and treatment options.^{3,4} Due to uncertainties surrounding diagnosis, treatment, or prognosis, coupled with the ubiquitous availability of digital information on diseases and treatment modalities,⁵ an increasing number of patients may request a second opinion when confronted with a severe diagnosis. This trend is particularly evident in cases of newly diagnosed malignancies such as melanoma or breast cancer, as well as chronic autoimmune conditions like Crohn's disease.⁶ For the majority of patients, the time between diagnosis and the initiation of the treatment regimen is considered a very challenging and stressful experience, with potentially adverse psychological outcomes, including anxiety, emotional distress, and impaired quality of life, as cancer is commonly perceived as a life-threatening and potentially traumatic illness.⁷ Furthermore, the sudden onset and uncontrollable nature of cancer often results in drastic changes in everyday life, and thus contributes to emotional distress.⁸ Despite the significant distress that a cancer diagnosis and treatment can bring, many cancer patients demonstrate remarkable resilience, which can be enhanced by additional measures of emotional stabilization,⁹ including comprehensive medical information about the disease and involvement in the decision-making process.¹⁰

As patients increasingly engage in the decision-making process, it becomes imperative to consider their preferences to arrive at individualized treatment decisions.¹¹ Seeking a second opinion can be beneficial for patients as it can alleviate anxiety and enhance their sense of control.^{12,13} Moreover, it may also lead to a more accurate diagnosis or offer better treatment options.¹⁴ In 2015, the German government enacted legislation under the German Social Code (SGB V, § 27b), guaranteeing patients the right to obtain a second medical opinion free of charge. This legislation has sparked heightened discussions surrounding second opinions, particularly within the field of cancer medicine.¹⁵

However, participation in the shared decision-making process or seeking a second opinion may be influenced by the patient's individual psychological characteristics.¹⁶ An essential tool for managing a chronic disease is the concept of LOC (locus of control), which is based on Rotter's social learning theory.¹⁷ In general, two types of LOC are distinguished: internal LOC, which expresses the person's belief about his or her direct influence on health, and external LOC, when the person is convinced that his or her health status depends on external factors.¹⁸

Hence, patients' inclination to participate in the decision-making process and actively pursue additional medical

advice is influenced by their perceptions of the disease and their internal and external locus of control. Consequently, patients are more inclined to engage if they have confidence in their ability to take active roles in their health-care decisions. However, there is a lack of real-world data on German skin cancer patients seeking a second medical opinion. Therefore, it is essential to ascertain whether skin cancer patients actively seek second medical opinions, thereby potentially selecting between different treatment approaches and healthcare institutions. Additionally, dermatologists need to enhance their understanding of the needs of skin cancer patients seeking second opinions to better address their requirements. This study aimed to address the following research questions:

- Do German skin cancer patients seek a second opinion?
- What are the primary reasons for obtaining a second opinion?
- To determine the influence of skin cancer on the self-efficacy of German skin cancer patients.

Thus, to improve the relationship between patients actively seeking second opinions and the mental mindset among patients with skin cancer, we surveyed six different German skin cancer centers using a questionnaire from February 2018 until March 2019.

PATIENTS AND METHODS

This study employed an anonymous survey conducted using a standardized questionnaire. The questionnaire was adapted from the initial version designed to assess the information needs of cancer patients and their usage of the Internet. It was developed by experts from the Prevention and Integrative Oncology group of the German Cancer Society.^{19,20} We made additional modifications to specific questions concerning second opinions, resilience, and self-determination. Inclusion criteria encompassed individuals diagnosed with skin cancer and aged over 18 years. Patients with language barriers or other constraints hindering independent questionnaire completion, as well as those under 18 years of age, were excluded from participation.

Research Participants

We surveyed participants who attended their regular follow-ups in six German skin cancer centers, including Mainz, Tübingen, Kiel, Gera, Dortmund, and Freiburg. All participants received a standardized questionnaire before attending their follow-up examination and were asked to return the questionnaire at the end of their consultation voluntarily. All participants agreed to participate in this survey voluntarily and signed informed consent.

Research Methods

The questionnaire comprised data on the following subjects:

- Demographic data (patient during or after treatment, gender, age, type of cancer, year of diagnosis, education level).
- Data on second opinion (motivation, obtained information, change in treatment regime, physicians response).
- Data on self-efficacy using a short form of the validated questionnaire from Schwarzer and Jerusalem.²¹
- Data on the perception of the disease using modified questions of the German version of the Brief Illness Perception Questionnaire (B-IPQ German) focusing on consequences of the disease, personal control and disease control.²²
- Data on the locus of control of reinforcement using a modified German IE-4, which enables to differentiate between internal and external locus of control.²²

Ethics Statement

The multicenter questionnaire was approved by the Ethics Committee of Rheinland-Pfalz (837.385.17) and was conducted in accordance with the principles of the Helsinki Declaration in its current version.

Analysis

Statistical analysis was performed using IBM SPSS Statistics version 23. GraphPad Prism version 5 was used for data collection. Correlations were determined using the chi-squared test; $p < 0.05$ was considered significant. In addition, a new significance level was determined using Bonferroni correction when applying several tests to one data set: In the case of categorical and metric variables, we used the student's t-test (if there were two items as a categorical variable or ANOVA test if our data showed more than two items as categorical variables) to check for significance. If two different categorical variables were to be compared, we used the chi-square test. For the rare case that a categorical variable had to be compared with an ordinal scaled variable, we used Kruskal-Wallis, Fisher's Exact Test, or Mann-Whitney U Test (significance level at $p < 0.05$).

RESULTS

Demographic data

A total of 714 patients from six German skin cancer centers participated in this survey. Among these, 292 (40.9%) were female, and 360 (50.4%) were male, whereas 62 (8.7%)

TABLE 1 Baseline characteristics of participants.

	n (%)
Age (years)	61.81 (range 18–89)
<50	136 (19%)
51–65	218 (31%)
> 65	326 (45%)
No data	34 (5%)
Gender	
Female	292 (40.9%)
Male	360 (50.4%)
No data	62 (8.7%)
Tumor entities	
Malignant melanoma	514 (77%)
Non-melanocytic skin cancers (BCC, cSCC)	69 (10.7%)
Cutaneous lymphoma (including MF)	53 (7.8%)
Rare skin cancers (MCC, CS)	25 (3.6%)
Melanoma stages (AJCC 2017)	
Melanoma in-situ	3 (0.6%)
I	129 (25.1%)
II	66 (12.8)
III	142 (27.6)
IV	148 (28.8)

Abbr.: BCC, basal cell carcinoma; cSCC, cutaneous squamous cell carcinoma; MF, mycosis fungoides; MCC, Merkel cell carcinoma; CS, cutaneous sarcoma

did not disclose any information on gender. The average age of the participants was 61.8 years (standard deviation [SD] 14.54, range 18–89 years). More than three-quarters (79.3) of the participants were older than 51 years, while only 20.7% were younger than 51 years. Thus, we categorized the participants into three age subgroups: <51 years (20.7%), 51 and 65 years (32.6%), and > 65 years (46.6%).²³ The education level of the participants was classified as low or high. Participants without a degree, elementary school, general school degree, or secondary school diploma were categorized as participants with low education levels (62.7%). In contrast, participants with high school diplomas and university degrees were classified as participants with high education levels (36.1%).

The majority of participants were diagnosed with malignant melanoma (76.9%; $n = 514$), followed by basal cell carcinoma ($n = 41$), cutaneous lymphoma ($n = 31$), and squamous cell carcinoma ($n = 28$). We categorized participants into two subgroups according to melanoma stages: early stage (in situ melanoma, stage I and II) and metastasized melanoma (stage III and IV) (Table 1).

Second opinion

In total, 164 (23.9%) participants had sought a second medical opinion, irrespective of their tumor entity (Figure 1). Primary reasons were seeking reassurance regarding the

Obtaining a second medical opinion

- No second opinion
- Seeking a second opinion

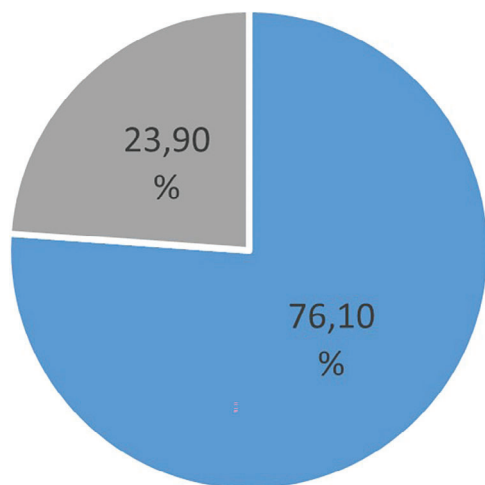


FIGURE 1 Obtaining a second medical opinion: The results show the number of participants seeking a second medical opinion. Nearly 24% of our participants obtained a second opinion after being diagnosed with skin cancer.

proposed initial treatment (68%), followed by gathering additional information regarding the newly diagnosed cancer (55%). However, 25% of the participants who obtained a second opinion received additional information. When analyzing the association between baseline clinical features and seeking a second medical opinion, univariate Cox regression analysis revealed a trend indicating that participants with advanced melanoma (stage III and IV) were more inclined to seek a second opinion compared to those with early-stage melanoma (stage I and II). Further analysis unveiled no significant differences in seeking a second medical opinion regarding gender or educational background ($p = 0.6$). Additionally, within the sub cohort of patients with non-melanoma skin cancer there was a notable absence of any inclination towards a heightened frequency in seeking second opinions.

Overall, seeking a second opinion was viewed mainly favorably by the treating dermatologist (61%). Thus, only 11% of the treating dermatologists were against obtaining a second opinion. Among participants who sought a second opinion, 20.7% did not inform their treating dermatologist that they wanted to do so. The participants perceived the subjective feeling of the treating dermatologist as primarily positive when a second opinion did not lead to a recommended treatment modification. However, in cases of divergent medical opinions, participants tended to view their dermatologist's reaction as more reserved or even negative ($p = 0.03$). Nev-

ertheless, there was no survey conducted with the treating physicians to ascertain the extent to which a divergent second opinion may have influenced their response towards the patient.

Next, we investigated the primary reasons for obtaining a second opinion and its effect on the participant-physician-relationship; a Likert scale gathered the following items from 1 (I disagree) to 5 (I agree) as described in the methods section of the manuscript.

The most common reason participants sought a second opinion was for reassurance regarding the current treatment regimen (40.2%). The mean score for this statement was 3.66 out of 5. Our data showed that increasing age and advanced melanoma correlate with an increase in seeking a second opinion (<51: 3.39; 51–65: 3.62; > 65 3.8; stage III and IV: 3.9, Mann-Whitney U test $p = 0.04$).

Obtaining a second opinion to gain further understanding of the diagnosis yielded the lowest value of all items with a mean value of 3.17 out of 5. Interestingly, 56 (34.1%) of the participants stated that they would not seek a second opinion in order to gain additional information regarding their diagnosis.

Over 25% of the participants agreed they received additional information after obtaining a second opinion. Overall, the information gained after obtaining a second opinion yielded a mean value of 3.28 out of 5. Our data showed that patients with advanced melanoma were more satisfied with their additional information compared to patients with early stage melanoma (3.56 vs. 3.02), although this association was below statistical significance (Mann-Whitney U test; $p = 0.6$).

When assessing whether the confidence in the treating derma-oncologist was strengthened by seeking a second opinion, we measured a mean value of 3.7 out of 5. Furthermore, we found an increasing tendency to a reinforcement of trust in older participants (<51: 3.28, 51–65: 3.7; > 65: 3.87 [$p = 0.07$]) and in participants with diagnosed melanoma (3.87) as opposed to those with non-malignant skin cancer, albeit without significance (Mann-Whitney U test; $p = 0.107$).

For most participants (52.4%), obtaining a second opinion provided additional reassurance. On average, the additional reassurance provided by the second opinion was assessed with the highest mean value of 4.16. In addition, we observed a significant correlation between melanoma and non-malignant skin cancer patients (4.31 vs. 3.79; $p = 0.033$). However, regarding gender and other skin cancer entities no significant correlation was detected.

In most cases (53.7%), obtaining a second opinion did not influence the further course of treatment. However, 29.3% of the participants received different treatment after seeking a second opinion. Overall, we noticed that in melanoma patients at stage III and IV the second opinion differed most often from the initial recommendations (38%). Unfortunately, our data did not reveal how first and second opinions differed.

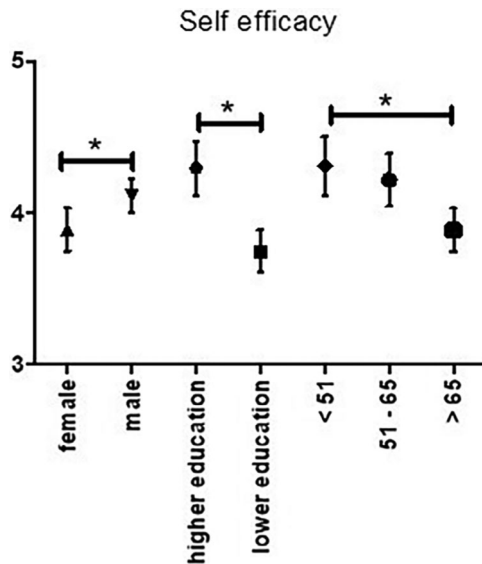


FIGURE 2 Self efficacy: The results show the rating the self-efficacy of the participants. Results show that the sub cohort of male participants ($p = 0.034$), participants with higher educational backgrounds ($p \leq 0.001$) and younger participants ($p = 0.003$) rated their own abilities significantly higher than their counterparts. * $p < 0.05$.

Self-efficacy

Next, we aimed to evaluate self-efficacy and disease perception (Figure 2). Participants were asked to rate the impact of the cancer diagnosis on their daily life using a short form of the validated questionnaire from the German version of the scale developed by Schwarzer and Jerusalem (ASKU)^{21,23} with a Likert scale (1 [I totally disagree] to 5 [I totally agree]).

Overall, participants assessed their ability to rely on their abilities in difficult situations with a mean value of 4.02 out of 5. Interestingly, male participants were significantly more confident in their abilities than female participants (4.11 vs. 3.89; $p = 0.01$). A further analysis revealed that participants with higher levels of education ($p = 0.039$) and younger participants ($p = 0.032$) had greater confidence in their abilities when facing difficult decisions.

The ability to cope with problems independently resulted in a mean value of 4.0. However, our analysis unveiled no significant differences regarding gender, educational background or other factors ($p = 0.06$).

Additionally, the participant's ability to cope with challenging situations yielded a mean value of 3.94. Regarding gender, we could observe a significant difference ($p = 0.034$), with female participants rating themselves lower than their male counterparts (3.69 vs. 4.0). Similarly, participants with lower levels of education rated their abilities with a mean of 3.84. In contrast, participants with a higher level of education scored a mean of 4.10 ($p < 0.001$). Regarding age, we observed a decreasing mean value with increasing age (<51: 5.92; 51–65: 4.91; > 65: 4.03; $p = 0.003$). In addition, a significant difference could be demonstrated

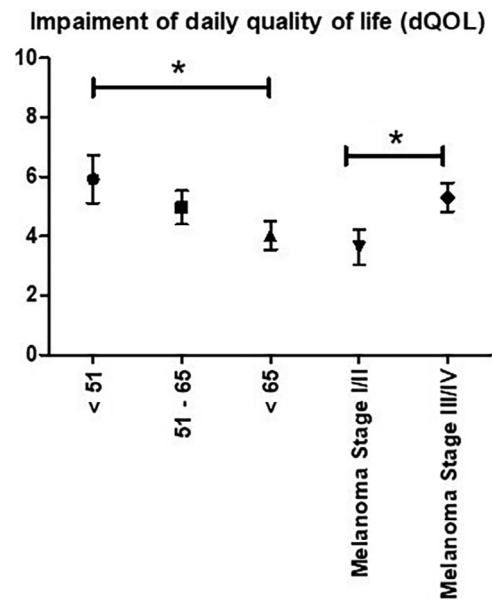


FIGURE 3 Impairment of daily quality of life (dQOL). The results show that participants rated the impairment of dQOL significantly more severe in the advanced stages of a melanoma. Also, younger participants are more affected by their cancer disease. * $p < 0.05$.

concerning melanoma stages (stage I: 4.14; stage II: 3.87; stage III: 3.93; stage IV: 3.85; $p = 0.013$).

The assessment of personal impairment and the perception of the cancer diagnosis was obtained using g selected questions from the German version of the Brief Illness Perception Questionnaire (B-IPQ German) with a Likert scale (0 to 10).²⁴

The impairment on their life was rated with a mean value of 5.24. Unsurprisingly, participants with advanced melanoma rated their impairment of life significantly more severe than participants with early-stage melanoma (5.31 vs 3.8; $p < 0.001$). Also, we observed a decreasing mean value with increasing age (<51: 5.24 vs > 65: 3.93; $p < 0.001$) (Figure 3).

External and internal locus of control

The final questions addressed the participants locus of control via the *IE-4 Short Scale for the Assessment of Locus of Control* through an ordinal scale of 1 = does not apply to 5 = applies completely.²⁵

The participants' perception of internal locus control yielded a mean value of 4.18. Our data also revealed that participants with advanced melanoma rated their internal locus control significantly lower than those with early-stage melanoma (3.93 vs. 4.34; $p = 0.042$). Furthermore, participants who reported a sense of loss in internal locus of control were significantly more likely to seek a second opinion on their planned treatment ($p = 0.03$). Additionally, the sense of reassurance after obtaining a second opinion was lower among these participants.

Participants rated the external locus control with a mean value of 1.95. Overall, older participants and those with a higher educational background were less affected by the influence of a third party (<51: 2.06 vs > 65: 1.76; $p = 0.044$ / 2.02 vs. 1.9; $p = 0.04$).

The burden of the disease was assessed using a Likert scale (1 = heavily burdened to 5 = not burdened at all). The mean score for this question was 3.29. Gender, education level, and tumor entity had no significant influence. A higher mean value was calculated with increasing age, i.e., the burden of the disease was lower with increasing age (<51: 3.14; 51–65: 3.17; > 65: 3.45; $p = 0.004$). The stage of melanoma also had a significant influence on the cancer burden (stage I: 3.59; stage II: 3.39; stage III: 3.28; stage IV: 2.94).

DISCUSSION

Our study offers novel insights into patients' motivations for seeking a second opinion and explores their perceptions of the cancer diagnosis and its impact on their lives. To our knowledge, this is the first prospective study involving German skin cancer patients that incorporates questions from validated short questionnaires to assess internal disease perception, external and internal locus of control, and self-efficacy. Through this study, we have provided real-world data demonstrating that seeking reassurance regarding planned treatment regimens ranks among the primary reasons why German skin cancer patients pursue second opinions. Our findings confirm a correlation between seeking a second opinion and a significantly lower internal locus of control in cancer patients. Additionally, consistent with prior research, we observed heightened impairments in daily life among younger participants and those with advanced melanoma. Overall, our study underscores how second opinions often serve to strengthen patient-physician interactions and offer additional reassurance, particularly among patients with a diminished sense of control. Moreover, we demonstrated that the impairment of quality of life and beliefs in both internal and external locus of control decrease significantly in advanced tumor stages. Consequently, it is imperative to identify additional strategies aimed at bolstering internal self-efficacy.

First, our results revealed that nearly one-fourth (23.9%, 164 out of 687) of our participants sought a second opinion, recent literature report similar results ranging from 7% to 42%.^{6,26,27} Unsurprisingly, the rate of obtaining a second opinion was higher in the subgroup of advanced melanoma. The primary reasons for seeking a second opinion were to seek reassurance regarding the suggested treatment and to gather additional information. Generally, treating physicians viewed the act of seeking a second opinion favorably. However, we observed that a divergent second opinion elicited an adverse reaction from the treating dermatologist. This discrepancy in attitude contradicts the argument that seeking a second opinion

contributes to enhancing patient safety and autonomy. In cases where the second opinion differed from the initial diagnosis, patients perceived negative emotions from their treating physician. Unfortunately, we were unable to determine whether an adverse reaction to seeking a second opinion led participants to change their treating dermatologist. Given the complexity of treatment options for advanced melanoma, seeking further information was another motivating factor for participants to seek a second opinion. Therefore, it is crucial for patients to be satisfied with the information provided to them. Additionally, our results revealed that nearly one-third of our participants received a different treatment protocol after obtaining a second opinion. Hence, treatment recommendations often vary even when established guidelines are in place. We reason that in most cases, the newly diagnosed skin cancer was presented in community medical facilities or by non-dermatologic surgeons. Therefore, there could be a lack of awareness regarding the established standard-of-care treatment guidelines, which may account for the high incidence of divergent treatment recommendations. Limitations of our study include variations in the timing of the survey administration during the treatment or follow-up phases of our participants. Additionally, we were unable to ascertain the primary motivations of our participants for seeking a second opinion. Thus, further investigation is warranted to determine the extent to which treatment recommendations differ when patients seek a second opinion after consulting established skin cancer centers.

Secondly, we demonstrated that the participant's internal locus of control plays a significant role in whether a second opinion is obtained. Hence, participants who sought a second opinion had a significantly lower internal locus control. In reference to Kovaleva et al.,²⁵ we assume that participants with a high internal locus of control are more likely to exhibit strong self-efficacy and resilience in the face of stressful life events. Specifically, the authors reported that higher self-efficacy was associated with a greater need for information. However, in our study, the motivation for seeking a second opinion was primarily to seek additional confirmation and validation of diagnosis and treatment, rather than a need for further information. Interestingly, participants with a high internal locus of control were more inclined to seek a second opinion to gain additional information. Furthermore, our data indicated that these patients were less likely to seek a second opinion on the proposed treatment regimen. Consequently, they are more likely to seek information via a second opinion to make well-informed decisions about the appropriate treatment.

Accordingly, they are more likely to seek information via a second opinion to make informed decisions about the proper treatment. In line with Ruetters et al.²⁶ our study confirms that seeking a second opinion also involves a specific relinquishment of one's decision-making responsibility and serves, above all, to gain more certainty about the diag-

nosis and the proposed course of treatment.^{28,29} Hence, the primary reason for seeking a second opinion was to confirm the proposed treatment path. When viewed through the lens of the internal locus of control model, it can be argued that patients with a high internal locus of control have a reduced need for additional reassurance and information from a second opinion. This is because they rely more on their inner strength and tend to exhibit higher levels of self-efficacy and resilience. Additionally, it can be argued that obtaining a second opinion served as a safeguard, resulting in increased trust in the treating dermatologist and strengthening the patient-physician relationship.

Further, we could demonstrate *via* the *Brief Illness Perception Questionnaire* (B-IPQ) that the perception of the diagnosed cancer on the effects of daily life is in line with previous literature.^{30–32} Consequently, participants with advanced melanoma anticipated a significantly longer disease duration or intensive follow-up compared to any other subgroup. Furthermore, with increasing age, the perceived impairment in quality of life was rated less significant. These observations complement recently published studies, which have noted a lesser impact on the impairment of quality of life in older patients with chronic diseases,^{33,34} and in line with these publications older participants were significantly less affected by their skin cancer diagnosis than younger participants. Interestingly we did not observe a trend towards seeking a second opinion in our younger participants, even though seeking a second opinion may benefit them psychologically by enabling them to act more autonomously and exercise some control thus regaining some quality of life.³⁵ Notably, we observed an increase in the impairment of daily life among participants with advanced melanoma, which can be attributed to a poorer prognosis. This often leads to a more intensive treatment protocol and an increase in consultations with the treating physician.

Participants rated their internal locus control *via* the *IE-4 shot scale* with a mean value of 4.13 (SD 0.74), which did not significantly differ from those in the validation study.²⁵ However, participants with advanced melanoma showed a significantly lower internal locus control than any other sub cohort. Furthermore, their score on the *Brief Illness Perception Questionnaire* (B-IPQ) regarding the impairment in quality of life was significantly lower. This suggests that the potentially fatal outcome of the disease, coupled with the extensive and time-consuming treatment, might negatively impact internal locus control. Interestingly, the belief in external locus control was similar to that observed in the validation study.²⁵ The observed differences in internal and external locus control of cancer patients compared to Keinki et al. may be attributed to the differences in the investigated patient cohorts. Specifically, participants in the study by Keinki and coworkers were predominantly diagnosed with solitary cancers such as breast or colorectal cancer, primarily in later tumor stages.¹⁶ Our study included participants with various skin cancer entities and clinical tumor stages, and we observed similar tendencies in participants

with higher educational backgrounds as well as female participants. These sub cohorts were more likely to believe they were in control of their disease and therefore tended to report higher scores on the internal control belief scale. Furthermore, we observed that participants with advanced melanoma, similar to patients with breast or colorectal cancer in later stages, were significantly more impacted by their respective disease and thus had a significantly lower internal locus of control.^{36,37} At the same time, patients who lean towards externalizing control often attend such lectures to acquire comprehensive information and thus regain some sense of control over their condition. This tendency may account for the elevated scores observed on the external control belief scale.

CONCLUSIONS

In summary, our study sheds light on the increasing significance of seeking a second opinion regarding diagnosis and treatment options. Specifically, we demonstrated that second opinions frequently bolstered the patient-physician interaction and offered additional reassurance, particularly among patients with a diminished sense of control. Additionally, we found that the impairment of quality of life and beliefs in both internal and external locus of control decreased significantly in advanced tumor stages. This underscores the necessity for additional psycho-oncological support in these patient cohorts, which may also contribute to enhancing patient resilience and coping strategies.

However, further efforts are warranted to bring the possibility of seeking a second opinion closer to patients, as only a little over a quarter of all participants in our study sought a second opinion. Hence, it cannot be inferred to what extent the group of patients who did not seek a second opinion experienced a perceived loss of control, whether they felt a need for a second opinion, and whether they would have benefited from one. Our data clearly show the importance of integrating the patient's perspective into the decision-making process to identify additional measures aimed at enhancing internal self-efficacy and locus of control, thus improving the patient's ability to cope with stressful life events such as a cancer diagnosis and treatment. These data may also assist psycho-oncologists in the interaction with skin cancer patients and help dermatologists provide patient-centered support in the decision-making process that promotes the individual patient's self-efficacy.

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CONFLICT OF INTEREST STATEMENT


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