Medical care-seeking and health-risk behavior in patients with head and neck cancer: the role of health value, control beliefs and psychological distress

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Abstract

Health behavior plays an important role in the development, detection and course of cancer of the head and neck. Relevant health behavior includes prompt medical care seeking, and smoking and drinking cessation after diagnosis. This study examines the relationship between these health behaviors and health value and control beliefs, as well as psychological distress. Two hundred and sixty-four recently diagnosed head and neck cancer patients were interviewed about their health behavior, and they filled in a questionnaire on health beliefs and psychological distress. The results showed that one-quarter (25%) of the patients had waited more than 3 months before seeking medical care, 50% had continued to smoke and 80% had continued to drink after the diagnosis. The patients, particularly those who smoked and drank before diagnosis, reported lower levels of health value and perceived health competence than a general population sample with which they were compared. Patients who engaged in patient delay reported a lack of perceived health competence. Psychological distress and lack of perceived health competence were found to be more common among patients who continued to smoke. The implications of these findings are discussed with regard to interventions aimed at promoting these specific health behaviors.

Introduction

Approximately 4% of all cancer patients have cancer of the head and neck, a type of cancer that has become increasingly prevalent in the last two to three decades (Franceschi et al., 2000). Unfortunately, nearly half of the patients with cancer of the head and neck are diagnosed with advanced stage disease, and this proportion has been rising over the last 20 years both in European countries and the US (Shah et al., 1997; Jones et al., 1998; Brouha et al., 2003). The 5-year survival rate of patients with cancer of the head and neck who are diagnosed with early-stage disease is 60–80%, but this rate drops to below 30% for patients diagnosed with advanced-stage disease (Vokes et al., 1993). In addition, patients who are diagnosed with advanced disease experience a worse quality of life after treatment (de Graeff et al., 2000). Therefore, early detection of head and neck cancer is extremely important. An impeding factor for early detection is patient delay in seeking medical care for head and neck cancer symptoms. A frequently used definition of patient delay has been a time period of 3 months or more between symptom discovery and initial seeking of a diagnosis (Hackett et al., 1973). On the basis of this criterion, 30% of the patients

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delay presentation of head and neck cancer symptoms (Amir et al., 1999).

The major risk factors for developing cancer of the head and neck are smoking and alcohol consumption (Boyle et al., 1990). In addition to the effect on the development of cancer of the head and neck, continuing these risk behaviors during or after treatment enhances the negative side-effects of radiation therapy (Browman et al., 1993; Manni, 1998), and increases the risk of postoperative complications (Spies et al., 1996) and the development of second primary tumors and disease recurrence (Day et al., 1994; Do et al., 2003).

Although it can be concluded that health behavior plays an important role in the development, detection and course of cancer of the head and neck, the psychological determinants of the relevant health behaviors are rarely examined in this patient group (Gritz et al., 1999; Aarstad et al., 2002; Schnoll et al., 2002). Identifying the psychological correlates of patient delay in seeking medical care and continued smoking and drinking could help guide effective interventions in the case of head and neck cancer patients.

One of the psychological determinants of health behavior is health-related hardiness, which reflects the extent to which individuals are committed to health-related activities, perceive health as controllable and approach potential health stressors as an opportunity for personal growth (Pollock, 1986). Health hardiness is positively related to various health promoting behaviors, such as exercising, dieting, and abstinence from alcohol, cigarettes and drugs (Wiebe and McCallum, 1986; Pollock, 1989; Nagy and Nix, 1989). In particular, perceived personal control over health and commitment to health have consistently been found to predict health behavior (Funk, 1992). The most recent instrument for measuring health hardiness is the Health Hardiness Inventory (HHI) (Abraham, 1993). In the HHI, the control dimension includes items that reflect the concept of perceived health competence, a domain-specific self-efficacy construct. Perceived health competence refers to an individual’s generalized expectancy regarding the ability to interact effectively with the environment in order to obtain the desired outcome, i.e. to be healthy (Wallston, 1992; Smith et al., 1995). In a Dutch validation study of the HHI, four scales were identified which represent the constructs of health value, perceived health competence and two control constructs related to the source of control, i.e. internal locus of control and external locus of control (Gebhardt et al., 2001).

Locus of control has been frequently studied in relation to health promoting behavior (Carlisle-Frank, 1991; Norman, 1995). It was theorized that individuals with a more internal locus of control as opposed to those with a more external locus of control are more likely to engage in health-protective behavior. However, empirical studies that tested this relationship are not conclusive (Strickland, 1989; Rotter, 1990). Several studies showed that the importance placed on health (i.e. health value) was a more significant variable for predicting health behavior than locus of control beliefs (Lau et al., 1986; Weiss and Larsen, 1990; Wallston, 1992), as were beliefs of self-efficacy or perceived competence (Bandura, 1982; Smith et al., 1995; Gebhardt et al., 2001). It was, however, also theorized that among individuals who face a life-threatening disease, which head and neck cancer is, there is little variation in how the value of health is appraised and that this value placed on health is consistently high (Lau et al., 1986; Smith et al., 1995).

As mentioned earlier, the health-protective behaviors that are important for the survival and quality of life of head and neck cancer patients are prompt care seeking when confronted with symptoms, and cutting down on smoking and drinking. With regard to the speed of seeking medical care when one first notices symptoms indicative of a health problem, it was theorized that health value and control expectancies could predict this type of behavior (Wallston, 1992). The more one values health, the more one should be motivated to do something about it when it is threatened. Also, the more one expects that one can successfully carry out health behaviors that lead to favorable health outcomes (that is the higher the perceived health competence), the less reason there is to delay
seeking definitive information. With regard to locus of control beliefs, it was hypothesized that people with an internal locus of control orientation may partially blame themselves for the symptom, and that this self-blame may lead to avoidance and delay rather than to confrontation. We are only aware of one study that directly examined the relationship between health control beliefs and a delay in requesting medical care (Keinan et al., 1991). In that study, no relationship was found between internal locus of control and delay in seeking care for a breast symptom. However, for breast cancer patients the relationship between health-risk behavior and disease is less evident than for head and neck cancer patients.

Internal and external control beliefs were in some studies found to predict smoking cessation in non-clinical samples, but this relationship was not always confirmed in other studies (Carey et al., 1989; Stuart et al., 1994). With regard to alcohol use, it was found that externals engaged more in excessive drinking than internals (Carlisle-Frank, 1991). Self-efficacy (a related construct to perceived health competence, although measured in most studies on a more behavioral specific level) appears to be a strong predictor of abstinence from alcohol and cigarettes (Carey et al., 1989; Stuart et al., 1994; Norman, 1995). We expect that patients with higher levels of internal locus of control, health value and perceived health competence are more likely to change their behavior, i.e. are more likely to quit smoking or drinking.

Because smoking and drinking are supposed to reduce stress among many individuals, anxious and depressive symptoms might impede people from stopping smoking or drinking during a stressful period. Psychological distress is prevalent among patients diagnosed with cancer of the head and neck (Davies et al., 1986; de Leeuw et al., 2000). Research on smoking cessation indicated that individuals who showed higher levels of perceived stress were less likely to quit (Carey et al., 1989). We expect a high prevalence of psychological distress in our sample of head and neck cancer patients, and, in addition, that those patients with higher levels of psychological distress are less likely to quit smoking or drinking.

In the present study, health value and control beliefs as well as psychological distress were measured in a sample of head and neck cancer patients. The relationships between health beliefs and the health-protective behaviors that are relevant for head and neck cancer patients were examined. In addition, tests were carried out to assess whether psychological distress was related to a lack of behavioral change.

Method

Participants and procedure

The participants were 264 patients with cancer of the head and neck. The patients were asked to participate if they had been recently diagnosed at the University Medical Center Utrecht, a tertiary oncology referral center in a city in the heart of The Netherlands. Patients with a previous malignancy in the head and neck region, cognitive impairments or poor understanding of the Dutch language were excluded. The participation rate was 72%. Participants filled in a questionnaire and were interviewed about the care-seeking process a few weeks after diagnosis, but before receiving treatment. The sample of patients included 185 males and 79 females. The average age was 60.9 years (SD = 11.0). Forty percent of the patients were diagnosed with advanced-stage disease.

Measures

Patient’s care-seeking behavior

Patient care-seeking delay was divided into less and more than a 3-month delay between symptom discovery and medical care seeking according to previous literature (Hackett et al., 1973). Responses that patients gave with regard to patient delay were verified against data from medical records and questionnaires filled in by the patients’ partner or family member and the health professional initially consulted.
Patient's health-risk behavior
Information on smoking and drinking habits before diagnosis, as well as quitting behavior after they heard the diagnosis, were gathered during the interview. Patients were divided into two groups according to their health-risk behavior before the first medical consultation: those showing no health-risk behavior (non-smoking in combination with none to moderate drinking, i.e. 0–2 drinks a day) and those showing health-risk behavior (smoking cigarettes or drinking 3 or more drinks daily or both).

With regard to change in health-risk behavior after diagnosis, patients who exhibited health-risk behavior before diagnosis (smoking cigarettes or drinking 3 or more drinks daily) were divided into two groups with regard to their current smoking or drinking behavior (patients who stopped versus those who continued). The two health behavior changes were investigated separately, because only half of the smokers also drank heavily. In addition, only a few patients (n = 14) changed both health-risk behaviors.

Health value and control beliefs
The Revised HHI (RHHI-24) (Gebhardt et al., 2001) was used to measure health beliefs. The RHHI is based on the HHI (Abraham, 1993) and contains health belief statements concerning four scales: Health value (six items, e.g. ‘I take care of my health as a matter of principle’, α = 0.74), Internal locus of control (five items, e.g. ‘The main thing that affects my health is what I do myself’, α = 0.62), external locus of control (seven items, e.g. ‘No matter what I do, if I am going to get ill, I will get ill’, α = 0.59) and Perceived health competence (six items, e.g. ‘I find that efforts to change things I don’t like about my health, are ineffective’, α = 0.59). This last scale consists of six of the eight items of the original Perceived Health Competence Scale (Smith, 1995). Items are rated on a five-point Likert scale ranging from ‘strongly disagree’ (1) to ‘strongly agree’ (5).

Psychological distress
The Hospital Anxiety and Depression Scale (HADS) (Zigmond and Snaith, 1983) was used to measure anxious and depressive symptoms. We used a total sum score of the HADS which can be interpreted as a unidimensional measure of psychological distress. A score above the cut-off score of 19 is an indication of a major depressive disorder (Razavi et al., 1990).

Statistical analysis
The mean scores on the health value and control scales were compared with a Dutch general population sample from the study of Gebhardt et al. (Gebhardt et al., 2001) using Student’s t-tests. Both the total patient group and subgroups according to health-risk behavior were compared. Also, the scores on psychological distress were compared with normative data from a non-clinical sample (Crawford et al., 2001) by use of Student’s t-tests.

To determine differences on the health belief scales between patients who engaged in delay and those who did not, Student’s t-tests were applied. Patients who changed their smoking or drinking behavior were compared with those who failed to do so on the health belief scales and psychological distress. Multivariate logistic regression analyses using backward selection were used to determine the most important predictors of patient delay and behavior change, after controlling for disease stage.

Results
Mean scores on health belief scales and psychological distress
The mean scores on the health belief scales of the total patient group and the subgroups according the health-risk behavior before diagnosis were compared to the general population sample (Table I). Gebhardt et al. (Gebhardt et al., 2001) found a significant age effect in their sample whose ages ranged from 13 to 97 years. As the patients in our sample are for the most part older than 45 years, we compared our sample means against the available means belonging to the age categories 45–65 and 65 years or older. An examination of the means revealed that the younger members of the total patient group reported significantly lower levels of
both Health value and Perceived health competence than the general population sample of comparable age. If the patient group is divided into those showing health-risk behavior before diagnosis and those who do not, the differences between our sample and the general population were only found in the patients showing health-risk behaviors.

The older members of the total patient group exhibited a trend to report lower levels of internal control than the general population sample. In addition, those older patients who exhibited health-risk behavior tended to report lower levels of Health value.

The mean score on the total HADS scale was 12.37 (SD = 7.77) in our sample, as compared to 9.82 (SD = 5.98) in the normative, non-clinical sample. This was a significant difference (t = 6.20, P < 0.001). Of all patients, 19% scored above the cut-off score of 19, which indicates major depression. Seventeen percent of the male patients scored above the cut-off score, as compared to 4% of the males in the normative sample. Of all female patients, 23% scored above the cut-off score as compared to 9% of the females in the normative sample. In contrast to the normative sample, no significant sex effect was found in our patient sample (t = −1.05, P = 0.297). The intercorrelations of the scores on health value and control beliefs and psychological distress are displayed in Table II.

### Patient delay and health value and control beliefs

Fourteen patients were excluded from the analyses regarding patient delay because their symptoms were first detected by a health professional. Sixty-three patients (25%) of the remaining patients waited 3 months or more before seeking medical help. The scores for External locus of control and Perceived health competence were significantly different in the case of patients who delayed and those who did not (Table III). Patients who delayed seeking medical care reported higher levels of External locus of control and lower levels of Perceived health competence. Multivariate logistic regression analyses revealed that, with regard to patient delay, only Perceived health competence was selected as a significant predictor [odds ratio (OR) = 0.55, P = 0.010, confidence interval (CI) = 0.35–0.87]. The higher the score for Perceived health competence, the less likely the patient was to delay seeking care.

### Table I. Mean scores on health belief scales for the total patient group (first column) and the patient group split up according their risk behavior before diagnosis (second and third columns) compared to the general population sample

<table>
<thead>
<tr>
<th>Age</th>
<th>Total patient group [M (SD)]</th>
<th>No risk behavior before diagnosis [M (SD)]</th>
<th>One or both risk behaviors before diagnosis [M (SD)]</th>
<th>General population sample [M (SD)]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M = 168</td>
<td>n = 27</td>
<td>n = 141</td>
<td>n = 50</td>
</tr>
<tr>
<td>&lt;65 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health value</td>
<td>3.87***(0.65)</td>
<td>4.32 (0.48)</td>
<td>3.78*** (0.64)</td>
<td>4.17 (0.65)</td>
</tr>
<tr>
<td>Internal LOC</td>
<td>3.46 (0.74)</td>
<td>3.30 (0.80)</td>
<td>3.49 (0.72)</td>
<td>3.62 (0.67)</td>
</tr>
<tr>
<td>External LOC</td>
<td>2.69 (0.67)</td>
<td>2.47 (0.65)</td>
<td>2.73 (0.67)</td>
<td>2.53 (0.77)</td>
</tr>
<tr>
<td>Perceived health competence</td>
<td>3.37*** (0.69)</td>
<td>3.70 (0.59)</td>
<td>3.30*** (0.69)</td>
<td>3.77 (0.62)</td>
</tr>
<tr>
<td>&gt;65 years</td>
<td>M = 96</td>
<td>n = 46</td>
<td>n = 50</td>
<td>n = 37</td>
</tr>
<tr>
<td>Health value</td>
<td>4.15 (0.72)</td>
<td>4.36 (0.60)</td>
<td>3.95 (0.77)</td>
<td>4.25 (0.66)</td>
</tr>
<tr>
<td>Internal LOC</td>
<td>3.42† (0.80)</td>
<td>3.43 (0.78)</td>
<td>3.42 (0.82)</td>
<td>3.69 (0.87)</td>
</tr>
<tr>
<td>External LOC</td>
<td>2.94 (0.77)</td>
<td>2.90 (0.77)</td>
<td>2.99 (0.77)</td>
<td>2.99 (0.87)</td>
</tr>
<tr>
<td>Perceived health competence</td>
<td>3.26 (0.66)</td>
<td>3.36 (0.63)</td>
<td>3.17 (0.68)</td>
<td>3.41 (0.82)</td>
</tr>
</tbody>
</table>

*Derived from the study by Gebhardt et al. (Gebhardt et al., 2001).
†P < 0.10; **P < 0.01; ***P < 0.001 (significance levels of differences in mean scores compared to the general population sample).
Health value and control beliefs and psychological distress in relation to smoking and drinking cessation

Of all patients who smoked before diagnosis, 50% (79 patients) stopped after they had heard the diagnosis. Those patients who stopped smoking reported higher levels of Perceived health competence than those patients who continued to smoke. There was a trend for patients who stopped smoking to report higher levels of Health value. Patients who continued to smoke reported a significantly higher level of psychological distress (Table IV).

Only a small percentage, i.e. 20% (n = 22), of the patients who drank 3 alcoholic drinks or more daily before diagnosis, stopped drinking. There was a trend for patients who stopped drinking to have higher scores on the Internal locus of control scale as compared to those patients who continued to drink more than 3 drinks per day (Table V). No significant differences in levels of psychological distress were found between patients who stopped drinking and those who continued.

Multivariate logistic regression analyses revealed that, with regard to continued smoking, psychological distress (OR = 1.08, P = 0.001, CI = 1.03–1.25) and Health value (OR = 0.65, P = 0.094, CI = 0.39–1.08) were included in the prediction model. The lower the score for Health value and the more psychological distress, the more likely patients were to have continued smoking. With regard to continued drinking, Internal locus of control was selected (OR = 0.58, P = 0.089, CI = 0.31–1.09) as the most important predictor. The lower the score for Internal locus of control, the more likely patients...

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**Table II. Intercorrelations between health value and control beliefs and psychological distress**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Health value</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Internal LOC</td>
<td>0.30***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. External LOC</td>
<td>0.05</td>
<td>0.21***</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Perceived health competence</td>
<td>0.26***</td>
<td>0.32***</td>
<td>−0.32***</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5. Psychological distress</td>
<td>−0.14*</td>
<td>−0.15*</td>
<td>−0.18**</td>
<td>−0.45***</td>
<td>1</td>
</tr>
</tbody>
</table>

*P < 0.05; **P < 0.01; ***P < 0.001.

**Table III. Comparison of patients who did not delay and patients who delayed seeking medical care for 3 months or more using t-tests (n = 250)**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Patients without delay</th>
<th>Patients with delay</th>
<th>t (d.f.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 187)</td>
<td>(n = 63)</td>
<td></td>
</tr>
<tr>
<td>[M (SD)]</td>
<td>[M (SD)]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health value</td>
<td>4.00 (0.66)</td>
<td>3.89 (0.75)</td>
<td>1.04 (248)</td>
</tr>
<tr>
<td>Internal LOC</td>
<td>3.45 (0.76)</td>
<td>3.34 (0.78)</td>
<td>1.07 (248)</td>
</tr>
<tr>
<td>External LOC</td>
<td>2.72 (0.71)</td>
<td>2.94 (0.75)</td>
<td>−2.13 (248)*</td>
</tr>
<tr>
<td>Perceived health competence</td>
<td>3.37 (0.69)</td>
<td>3.11 (0.60)</td>
<td>2.64 (248)**</td>
</tr>
</tbody>
</table>

*P < 0.05; **P < 0.01.

**Table IV. Comparison of patients who stopped smoking and patients who continued smoking after diagnosis using t-tests (n = 158)**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Patients stopped smoking</th>
<th>Patients continued smoking</th>
<th>t (d.f.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 79)</td>
<td>(n = 79)</td>
<td></td>
</tr>
<tr>
<td>[M (SD)]</td>
<td>[M (SD)]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health value</td>
<td>3.90 (0.69)</td>
<td>3.72 (0.65)</td>
<td>1.72 (156)†</td>
</tr>
<tr>
<td>Internal LOC</td>
<td>3.46 (0.68)</td>
<td>3.43 (0.81)</td>
<td>0.25 (156)</td>
</tr>
<tr>
<td>External LOC</td>
<td>2.75 (0.65)</td>
<td>2.76 (0.73)</td>
<td>−0.16 (156)</td>
</tr>
<tr>
<td>Perceived health competence</td>
<td>3.37 (0.62)</td>
<td>3.13 (0.69)</td>
<td>2.30 (156)*</td>
</tr>
<tr>
<td>Psychological distress</td>
<td>11.82 (6.89)</td>
<td>16.15 (8.44)</td>
<td>−3.54 (156)***</td>
</tr>
</tbody>
</table>

†P < 0.10; *P < 0.05; ***P < 0.001.
were to have continued excessive drinking. However, Internal locus of control (and also Health value with regard to continued smoking) were only trend significant.

### Discussion

The purpose of the present study was to examine the relationship between health value and control beliefs, psychological distress and various health behaviors among a sample of head and neck cancer patients. In this patient group, health behaviors, such as seeking medical care for symptoms, and smoking and drinking behavior are particularly important because of their influence on the development, detection and course of the disease.

It was theorized that, in the context of a life-threatening disease, the salience of health and the value placed on it is consistently high (Lau et al., 1986). However, our results do not sustain this assumption. The younger members of our sample of head and neck cancer patients (45–65 years of age) scored significantly lower as regards health value than the general population sample of a comparable age. Head and neck cancer patients are known to exhibit health-risk behavior frequently. They are often smokers, frequently in combination with heavy drinking (Cachin, 1989). It was shown that for those patients who did not show health-risk behavior before diagnosis, the reported levels of health value were comparable to those of the general population. The group of patients showing one or more health-risk behaviors accounted for the difference with the general population sample. The same results were obtained for the health belief scale of perceived health competence. Literature shows that health value and perceived health competence are negatively related to health-risk behavior such as smoking and excessive drinking (Norman, 1995; Smith et al., 1995; Gebhardt et al., 2001). In the case of older patients (65 years and older), no significant differences in levels of health value and perceived health competence were found when compared to the general population. A plausible explanation for this finding is that the health-risk behaviors were less prevalent and less extreme among the older members of the patient group.

The head and neck cancer patients tended to report lower levels of internal locus of control than the general population sample. The confrontation of being diagnosed with serious illness may have led to the perception that one cannot control one’s health to the extent regarded as possible before the diagnosis. This explanation was sustained by the fact that lower levels of internal control are especially observed in those patients who showed no health-risk behavior. It can be argued, however, that the items of the internal locus of control scale are less suitable for patients who are confronted with cancer. Items such as ‘I am in control of my health’ and ‘I can be as healthy as I want to be’ are probably less relevant to those who already consider themselves to be ill (Watson et al., 1990).

In this study, we tried to identify psychological correlates of patient delay in seeking medical care to get a better view of who are at risk for patient delay, since patient delay has negative consequences with regard to disease outcomes. However, inherent to any study of patient delay, one can only measure patient delay retrospectively. A prospective study on delay in seeking medical care is impossible to conduct for practical and ethical reasons. We investigated health-related hardiness (by use of health value and control beliefs statements), as this was

### Table V. Comparison of patients who stopped drinking alcohol and patients who continued drinking after diagnosis using t-tests (n = 105)

<table>
<thead>
<tr>
<th>Scale</th>
<th>Patients stopped drinking (n = 21)</th>
<th>Patients continued drinking (n = 84)</th>
<th>t (d.f.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health value</td>
<td>3.73 (0.78)</td>
<td>3.76 (0.61)</td>
<td>0.76 (103)</td>
</tr>
<tr>
<td>Internal LOC</td>
<td>3.66 (0.78)</td>
<td>3.35 (0.76)</td>
<td>1.63 (103)</td>
</tr>
<tr>
<td>External LOC</td>
<td>2.75 (0.75)</td>
<td>2.77 (0.66)</td>
<td>−0.13 (103)</td>
</tr>
<tr>
<td>Perceived health</td>
<td>3.50 (0.73)</td>
<td>3.27 (0.66)</td>
<td>1.38 (103)</td>
</tr>
<tr>
<td>Psychological distress</td>
<td>13.81 (7.94)</td>
<td>12.67 (7.32)</td>
<td>0.63 (103)</td>
</tr>
</tbody>
</table>

*P < 0.10.
assumed to be a personality trait and as such is assumed to be relatively stable over time. However, it must be borne in mind that the health value and control beliefs were measured after patient delay took place, and also after patients had heard the cancer diagnosis. The confrontation with serious disease might have influenced the responses on the questions posed with regard to health value and control beliefs. Therefore, the conclusions concerning health beliefs in relation to patient delay must be treated with caution.

We could not confirm the hypothesized relationship between health value and patient delay, but we did find that a delay in seeking medical care for symptoms of the head and neck was related to perceived health competence and external health locus of control. As expected, patients who reported higher levels of perceived health competence were less likely to show delay. In addition, the bivariate analyses showed that patients who delayed seeking care for three months or more reported higher levels of external locus of control. However, the items constituting the external locus of control scale concern beliefs that chance or fate influences one’s health and it was suggested that these beliefs are more appropriately conceived as indicators of a lack of perceived personal control than as an external locus of control dimension (Wallston, 1992). In addition, in the multivariate analysis the effect of external locus of control was superseded by the effect of perceived health competence. Thus, it seems that patients who experience a lack of perceived health competence or personal control are particularly at risk to delays in seeking medical care. A possible mechanism through which personal control might influence patient delay is that control reduces the appraisal of threat, and increases problem-solving and support-seeking strategies (Ouellette and DiPlacido, 2001). The items of the perceived health competence scale reflect the incapability of finding effective solutions for health problems. Therefore, to promote early detection, awareness raising with regard to head and neck cancer should not only focus on the awareness of symptoms, but also on the steps to be taken once confronted with symptoms. This means discouraging a ‘wait and see’ attitude and enhancing personal efficacy by showing that one can do something about it, i.e. seek medical advice. Literature on cancer screening has proven that interventions aimed at enhancing self-efficacy are effective in promoting participation (Myers, 2003).

The diagnosis of a life-threatening disease has been considered a ‘teachable moment’—a health event that can motivate patients to spontaneously adopt risk-reducing behavior (Mitka, 1998). Indeed, the smoking cessation rate of patients faced with serious illness is much higher than the population cessation rate (McBride et al., 2003). In our sample, 50% of the patients stopped smoking and 20% stopped drinking heavily after they had heard the diagnosis. These percentages are lower than reported in earlier studies into quitting smoking or drinking among head and neck cancer patients, but the period of abstinence was not always comparable (Gritz et al., 1999; Schnoll et al., 2002). We measured the quitting rate before treatment, which provides us with no information about possible changes in smoking or drinking behavior after treatment. Longitudinal research is needed to see which patients are long-term quitters and which patients are prone to relapse. However, the moment between diagnosis and treatment is important because abstinence during treatment is beneficial for treatment outcomes. In addition, the contact between various health professionals and the patient is frequent, which offers opportunities for intervention. Apparently, quitting smoking is not easy for many patients and just a doctor’s advice about the benefits of quitting does not seem to be effective. Patients who wish to quit may benefit from some support during this stressful period. We found that psychological distress and a lack of perceived health competence were more common among patients who continue to smoke. Therefore, an intervention aimed at changing smoking behavior should pay attention to reducing psychological distress and enhancing the patient’s personal efficacy.

This cross-sectional data gives us no information about the trend of the effects. It must be borne in mind that health control beliefs and health behaviors may influence each other. In particular, the
relationship between self-efficacy and behavior is probably a reciprocal one. Past successful experiences enhance one’s sense of efficacy and this may, in turn, contribute to greater effort to achieve goals in the future (Ozer and Bandura, 1990). It has, however, been suggested that it is sooner the case that self-efficacy promotes smoking cessation than vice versa (Mudde et al., 1995).

It can be questioned whether self-report measures about smoking and drinking behavior are reliable, especially with regard to patients who are being treated for a smoking- or drinking-related illness and who might be under pressure because of social or medical disapproval. In our study, a research psychologist who was not involved in the patients’ medical treatment carried out the interview which may have reduced patients’ tendency to provide socially desirable answers. Moreover, a recent study has shown that smoking-related research using self-reporting alone can reliably be carried out among this particular smoking group (Sandhu et al., 2004).

Finally, our health value and control belief scales, although specific to health, are fairly general measures. It has been suggested that they should only properly be used to predict global indices of health behaviors (e.g. leading a healthy lifestyle) rather than specific behaviors such as smoking or alcohol consumption (Wallston, 1992). In order to predict specific behaviors, one should also use more behaviorally specific expectancies (Bandura, 1982). Our perceived health competence scale measures self-efficacy related to health, but is still not very specific to the behaviors investigated. However, it was shown that this domain-specific measure was related to various forms of health-related behaviors investigated in this study.

To conclude, head and neck cancer patients frequently show health-risk behavior. Because beliefs regarding control over one’s health and psychological distress were found to be related to specific health behaviors, interventions aimed at early detection and behavioral change with regard to smoking and drinking should take these psychological factors into account. Future research should explore these relationships, particularly in the long term.

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References


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