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Prospective study of the influence of psychological and medical factors on quality of life and severity of symptoms among patients with oral squamous cell carcinoma

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Abstract

About 400,000 people worldwide are diagnosed with oral squamous cell carcinoma (SCC) annually, and the incidence is increasing. Many advanced carcinomas of the oral cavity require radical surgical treatment that can impair patient's quality of life (QoL) and severity of symptoms. We therefore aimed to identify coping strategies and disease-specific medical factors that affect QoL and severity of symptoms. Patients with oral SCC were asked to complete the Freiburg Questionnaire on Coping with Illness (FQCI), the University of Washington Quality of life Questionnaire (UW-QOL version 4), and the Brief Symptom Inventory (BSI) to measure psychological stress. We also assessed the impact of various factors on QoL and severity of symptoms, including stage and site of tumour, method of reconstruction, time of diagnosis, and social structure (age, sex, marital status, living arrangements, level of education, and employment). We enrolled a consecutive sample of 104 patients over a period of one year. Stepwise linear regression analyses indicated that both depressive coping and size of tumour had an adverse effect on QoL and severity of symptoms. Patients with high educational attainment and those who lived alone reported impaired QoL, and women experienced increased severity of symptoms. Impaired QoL and increased severity of symptoms were associated with a depressive style of coping, size of tumour, educational attainment, and living arrangements. It is important to identify these patients during treatment as they could benefit from psycho-oncological counselling.

Keywords: Oral cancer; Coping behaviour; Symptom assessment; Quality of life

Introduction

About 5% of all malignant tumours are located in the oral cavity.[1] Over 90% are oral squamous-cell carcinomas (SCC), the most common histopathological type to present in the head and neck area, and the seventh most common of all types of tumour.[2] Its incidence is still increasing[3] and, despite advances in treatment, the five-year survival has not improved over the past two decades.[4] Many advanced cancers of the oral

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cavity require radical resections that result in both loss of tissue and dysfunction. This can affect speech and mastication, leading to impaired quality of life (QoL) and increased severity of symptoms in terms of greater psychological distress.[5]

Various factors that influence QoL and severity of symptoms have been discussed, but the way patients cope with illness is of increasing importance. Among patients with oral SCC, we make a general distinction between active managing, and denial or refusal of acceptance. The last two strategies have an adverse effect on QoL, which may also affect management.[6]

Both disease-specific factors and social structure influence QoL and the severity of symptoms.[7,8] Important disease-specific factors include stage and site of tumour, type of reconstruction, and time of diagnosis. To date neither the influence of the site of the tumour nor the method of reconstruction after resection have been studied from the point of view of QoL and severity of symptoms. Although age and sex have been discussed, findings have been inconsistent,[9–11] and few studies have addressed social factors such as marital status, living arrangements, type of employment, and level of education.

A comparative analysis of relevant factors may provide an insight into which of them are decisive. In particular, we have tried to identify the coping strategies and disease-specific medical factors that affect patient's QoL and severity of symptoms.

Patients, material, and methods

Protocol of the study and inclusion criteria

Patients from Hannover Medical School, Department of Oral and Maxillofacial Surgery, were enrolled between January 2013 and September 2013 as a consecutive sample in a prospective observational study. Inclusion and exclusion criteria are shown in Table 1.

All patients were asked to respond to standard questionnaires that covered sociodemographic factors, coping, QoL, and severity of symptoms. The patients could complete the questionnaires on the spot or to take them home and send them back to the clinic. The response rate was 82%, and 104 patients could be included in the study.

Table 1
Inclusion and exclusion criteria.

Inclusion criteria	Exclusion criteria
Oral cancer	Recurrent tumours
Age: 18–75 years	Inoperable tumours
Written informed consent	Pregnancy, breastfeeding
	Chronic pain syndrome
	Infections disorders of the circulation
	Systemic diseases
	Diseases that affect the immune system
	Disorders of blood coagulation
	Allergic reactions to drugs and antibiotics
	Recent operations

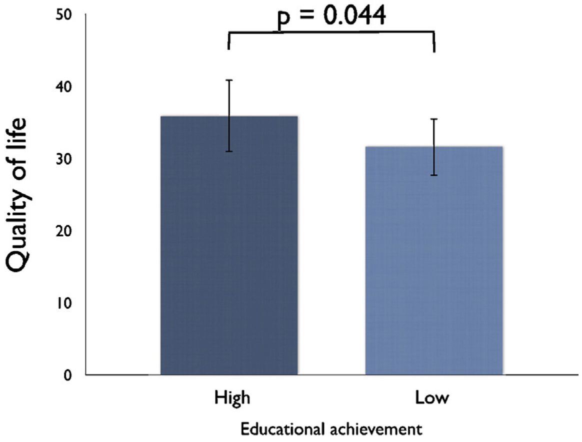

Fig. 1. Comparison of mean values between patients with a lower education level (secondary school certificate or lower) and those with a higher education level (qualification for entrance to university or higher). There is a significant difference in mean value between the two groups in that patients with a higher level of education have a higher quality of life.

The sociodemographic questionnaire included questions about age, sex, marital status, living arrangements, level of education, and employment. Data collected from medical records included stage of tumour (according to the UICC), site of tumour, and type of reconstruction. Informed consent was gained by explaining the aims of the study and how personal data was to be used.

Assessment of coping

The Freiburg Questionnaire on Coping with Illness (FQCI) covers various coping strategies (depressive, active

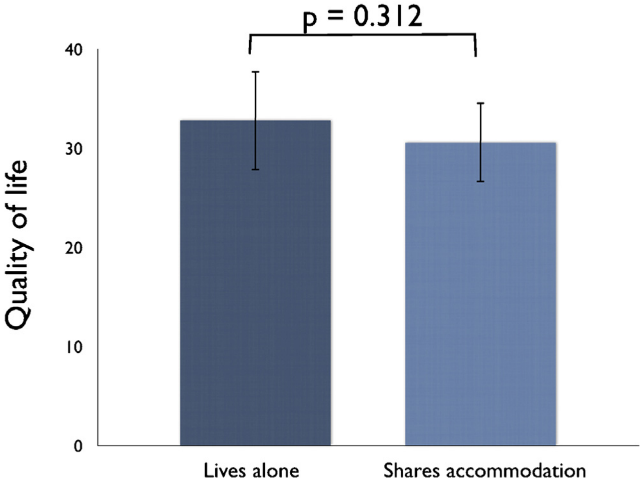

Fig. 2. Comparison of quality of life between patients who live on their own and those who share accommodation. The comparison of mean values shows a lower quality of life for patients who live on their own. The difference is not significant.