Assessment of the quality of life in patients with oral cavity and jaw cancer in three regions of Bulgaria

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Summary

Purpose: The aim of the present study was to assess the quality of life in patients with oral cavity and jaw cancer, using an original rating scale.
**Materials and methods:** In order to assess the quality of life in such patients an original rating scale was developed. It was validated. Non-parametrical analysis, Van der Waerden analysis for small samples and graphic analysis were used for statistics.

**Results:** Results showed that most patients were rated as grade III or IV according to the five grade scale. Their life quality was significantly reduced, resulting in depression and despair. Reconstruction and prosthesis implantation and social rehabilitation were needed in these patients. Quality of life was assessed in 19 patients prior to and following prosthesis implantation. Prior to implantation most patients were rated as grade III or IV, whereas the majority of them were rated as grade 0 or 1 following prosthesis implantation.

**Conclusion:** After assessment of life quality, patients rated as grade III or IV should be allowed access to complex medical management, including prosthesis implantation and social rehabilitation.

**Key words:** rating scale, quality of life, prosthesis

**Introduction**

A number of module questionnaires and rating scales have been used in an attempt to assess the quality of life in patients with oral cavity and jaw cancer. Specific for defect location as well as unspecific rating instruments have been applied – Head & Neck Cancer Modul, VFQ [5,13,17]. Most of them focus on health problems, functional impairment and depression as a result of disfigurement [1,2,5,6,7,8,9,12,14,15,16,17,18]. Some authors consider them detailed and labor consuming – in J. Kollbruner’s et al. opinion, the scales they used, consisted of 241 test items and 19 life quality aspects and thus was difficult to apply [11]. A number of authors developed their own rating scales – Schleiphake et al. used a standardized scale, consisting of 22 test items [15]. A new, easy to use rating scale to assess the quality of life in patients with oral cavity and jaw cancer is presented in this study.
Material and methods

The aim of the present study was to assess the quality of life in patients with oral cavity and jaw cancer. An interview was administered to 103 patients from Plovdiv, Smolyan and Pazarjik region (Bulgaria). All of them presented with oral cavity and jaw cancer (141-145;170.0;170.1, according to the International Classification of Diseases ICD - 9). Lip cancer was excluded.

In this study an originally developed, (not a standard) rating scale of quality of life was used. It was developed, based on evaluation and analysis of functional impairment in such patients. The scale was validated in a pilot study of 30 patients, yielding a very good value of Cronbach’s alpha coefficient – $\alpha = 0.91$. External validity was assessed, comparing ratings by two independent scorers – the researcher and a dentist, performing prosthesis implantation in the oro-facial region. Nineteen patients were evaluated. Results showed a high correlation – $p<0.001$ (Kendal coefficient $r_{xy} = 0.98$). Thus, it was applicable in the basic study.

Results and Discussion

The rating scale as a quality of life assessment instrument was easy to use. It was administered to all 103 patients (Figure 1).
Figure 1. Assessment of quality of life in the patients, studied.

Results showed that most patients were rated as grade 3 (65.05±4.69) or 4 (22.33±4.10). They had impaired speaking and feeding, combined with disfigurement and pain or both. Functional impairment in such patients is severe, leading to despair and depression and no faith in favorable outcome. Other authors’ studies present similar results [3,10]. Multiple surgical interventions - re-operations and prosthesis implantation are the only option in such patients, as an element of social rehabilitation [4].

Prior to analyzing the role of prosthesis implantation, the quality of life of these patients was rated according to the disease stage (Figure 2).

Figure 2. Assessment of quality of life according to disease stage.

Results show that most patients were rated as grade 3 or 4. Significantly reduced quality of life (grade 3) was reported by most patients in stage I or II of the disease. Severely reduced life quality (grade 4) was reported by a nearly equal number of patients from both groups – about 20% in stage I and II of the disease and in stage III or IV of the disease. This is due to the fact that patients with stage I or II receive surgical treatment, which in stage II is
followed by radiotherapy. Stage III patients receive only radiotherapy, stage IV- radiotherapy and chemotherapy. This treatment strategy significantly impairs normal functioning even in stage I and causes severe patient’s discomfort. Thus, all patients with oral cavity cancer have a reduced quality of life regardless of the disease stage and need complex treatment by a team of specialists – the so called social rehabilitation.

In order to prove that prosthesis implantation improves the quality of life such patients, they were rated using the scale prior to and following reconstruction (Figure 3).

![Bar chart showing quality of life before and after prosthesis implantation](chart.png)

**Figure 3.** The quality of life of patients before to prosthesis implantation and after prosthesis implantation.

The data show that there is a significant difference, regarding quality of life prior to and following prosthesis implantation. Before prosthesis implantation most patients were rated as having reduced quality of life (grade 3 or 4). After implantation most of them were rated as grade 0 or 1, indicating that problems with speaking, feeding, disfigurement and pain have been eliminated. The difference between the two groups is statistically significant $p<0.001$ ($\chi^2=36.00$). As no patients fall in some of the groups, Van der Waerden method for
small samples was used (Table 1). Table 1 shows the proportion of patients rated as grade 0 and 1 prior to prosthesis implantation and rated as grade 3 or 4 following implantation. The difference is statistically significant.

The results of the study illustrate the need of prosthesis implantation in patients with large maxillo-facial defects. Apart from the improved sense of well-being and recovery of vital functions, it is also a contributing factor to patients’ coping with the illness. Most authors consider coping structure crucial to patients’ illness management [4]. It is necessary in such patients after assessment of quality of life, those rated as grade 3rd or 4th grade to receive adequate medical care and social rehabilitation.

Conclusions

1. Patients with oral cavity and jaw cancer have a reduced quality of life regardless of disease stage and require complex management by a team of specialists.


3. This scale is easy to use and could be applied as a quality of life assessment instrument in Clinics of Oro-facial Surgery. This would facilitate postoperative care and social rehabilitation of such patients.
References


Table 1. Assessment of quality of life prior to and following prosthesis implantation in 19 patients

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<tr>
<th>Grade</th>
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