

THE ROLE OF PSYCHOSOCIAL INTERVENTIONS IN THE REHABILITATION OF PATIENTS WITH SURGICAL INTERVENTIONS FOR ORAL CANCER

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Abstract

The surgical interventions performed to treat oral cancer can cause important psychological manifestations, but also eating disorders, deglutition disorders, intense pain, sometimes severe depression or anxiety. That is why it is very important to understand as completely as possible the psychological and social deficiencies that patients diagnosed with oral cancer may encounter, in order to help them throughout the treatment, and throughout their survival. The implementation of measures to ensure the psychosocial adaptation to everything that involves a surgical intervention for the treatment of oral cancer needs to be done as early as possible. The goals of these interventions can be represented by the reduction of isolation, the feeling of alienation, anxiety, lack of hope and optimism regarding the future and the clarification or reinterpretation of erroneous information and thoughts about the disease and treatment. Accordingly, this work aims to highlight those measures that can be used to reduce the psychosocial consequences determined by the complex treatment and especially by the surgical intervention specific to oral cancer.

Key words: psychosocial intervention, treatment, oral cancer

Introduction

The psychosocial intervention term has a very broad meaning, being difficult to define. For example, Pai (1) defines this term as representing any intervention aimed at reducing psychological distress and increasing the person's ability to adapt to certain situations, increasing the level of functioning. These interventions involve different modalities such as psychoeducation, cognitive and behavioral interventions, therapy or family counseling. Also, psychosocial intervention can be considered any type of preoperative information to the patient about the nature of the intervention itself, that is, it represents any way whereby the patient's

cognition or emotions can be influenced non-pharmacologically.

Surgical interventions in the oral or maxillofacial sphere determine important consequences and sequelae involving eating or swallowing disorders, pain and sometimes severe anxiety. Therefore, pre- and post-operative psychosocial interventions can influence subsequent recovery. Numerous studies indicate that the use of cognitive and behavioral techniques influences pain, discomfort and medical indicators of postoperative recovery (1, 2).

Adverse effects associated with maxillofacial cancer are attributed to the effects of the tumor itself or procedures used before or during cancer treatment,

such as tracheostomy, mucositis, xerostomia, oral sphincter damage, or radionecrosis after radiotherapy (3). Self-esteem can be affected when normal facial appearance or communication ability is altered by oral cancer treatment (4).

Analyzing the data from the specialized literature, we can group the negative effects encountered in patients diagnosed with oral cancer into two large categories: physical deficiencies and psychosocial deficiencies.

Physical deficiencies

Oral cancer treatment has adverse effects on facial aesthetics, speech, voice and swallowing. Some of these deficiencies may appear before, during, or immediately after treatment and may improve, be stationary, or even worsen over the years (3,4). Long-term consequences, such as postoperative facial scars, dysphagia, and xerostomia can compromise the patient's body image; they can also affect oral communication and social interactions (5).

Various studies have shown that posteriorly placed tumors, the increased tumor size, adjuvant and extensive radiotherapy, soft palate and tongue base resections are predictors of poor oral function (6).

Facial aesthetics impairment

Surgical intervention in the case of advanced oral cancer may involve wide excision of multiple facial structures and complex reconstructive surgical interventions, which aim to restore physiological facial features and functions. Sometimes reconstruction using free-transfer composite flaps containing bone is necessary. These interventions are laborious and also involve high donor site morbidity. When the patient's resources are

limited, the use of facial prostheses can be used to lessen the effects of surgical resection (7).

Speech impairment

Speech is of great importance to both patients and the community. Sound characteristics are influenced by the larynx, oropharynx and mouth. The lips and tongue make contact with the dentition to shape sound in the process of articulation, which is the basis of word formation (6).

Most of the time, speech is affected by chemotherapy and/or radiotherapy treatment. The severity differs from case to case, usually manifesting as difficulties in the rapid articulation of words (6,8). Sometimes no intervention is necessary, the side effects of the treatment regress after a variable period of time. In more serious cases, the intervention of a speech therapist is necessary. The treatment of these conditions may include muscle strengthening exercises, controlled breathing, and managing nervousness while speaking (6, 7 and 8).

Voice impairment

The causes of the change in the speaking tone of patients with oral cancer can be multiple and are represented by (7,9):

- injuries of the vocal cords,
- injuries of the tongue,
- chronic laryngeal edema
- xerostomia
- palatal lesions

Most of the time, the treatment consists of vocal rest exercises. In the case of a tracheostomy, the patient is trained to use a one-way talk through the valve (7).

Deglutition impairment

Deglutition is an extremely complex process that involves the control of the pharyngeal muscles, the mobility of

the tongue and the appropriate activity of the oral muscles, lips, mandible and teeth and is closely related to other functions, such as saliva production, esophageal function, respiratory coordination and the cough reflex (10,11).

Deglutition impairment is manifested by the appearance of dysphagia associated with aspiration of food in the case of extensive surgical resections.

Dysphagia occurs due to surgical trauma and impairment of mastication, but it can also be caused by the effects of radiotherapy. Tissue fibrosis can occur even after a long period as an effect of radio-necrosis (12,13,14). The treatment of deglutition disorders is difficult and requires the adoption of certain postures (turning the head or tilting the chin), controlling breathing while eating or changes in the diet (it requires mashed food). To avoid aspiration, an intraocular prosthesis can be very useful (6, 10).

Psychosocial consequences

Oral cancer has strong psychosocial implications not only for patients, but also for their families, even for the medical staff. That is why it is very important to have a complete understanding of the psychological and social deficiencies that patients diagnosed with oral cancer may encounter, in order to ensure adequate support throughout treatment, but also throughout survival (15).

The most common manifestation of patients diagnosed with cancer is denial. This reaction, many times, can have negative effects regarding the treatment of the disease, leading to the delay of the initiation or even to the categorical refusal of the treatment, drastically reducing the chances of survival. A beneficial effect on

the patient can rarely occur, giving it a positive attitude towards the disease (7,8,9).

Projection is another unconscious defense mechanism of the patient diagnosed with oral cancer. This involves developing false feelings for another person, usually the medical staff. These feelings can negatively influence the physician-patient relationship, leading to a low patient compliance with the treatment (7).

Surgical interventions, regardless of their nature, are included among the most stressful life events (Gouin and Kiecolt-Glaser, 2011) and cause manifestations of worry and anxiety related to hospitalization, anesthesia, subsequent complications and the recovery process. According to Johnston's evaluations, the perioperative stress starts 6 days before the intervention, with a peak 2 days postoperatively and decreases in 5-6 days postoperatively, the quasi-complete recovery being in a few weeks (16, 17,18).

Mild or moderate anxiety can be considered beneficial and has a facilitating role for postoperative coping mechanisms. On the other hand, severe anxiety has negative consequences, which determine emotional, cognitive or behavioral manifestations. It was also found that an increased level of anxiety in the preoperative period will determine to increase the dose of anesthesia required during the operation, the prolongation of the hospitalization period and increased risk of operative complications. To reduce anxiety, psychosocial interventions initiated as early as possible are recommended and the existence of an opportune preoperative intervention period is even discussed to improve the subsequent evolution of patients (16, 17,18).

It is important to emphasize that each individual has a unique personality and this is an important factor to consider in the management of patients with oral cancer (1,5, 7). Some patients are compliant with treatment and seek social support, while others resort to coping and defense mechanisms, making their treatment more complicated and compromising the therapeutic results (8).

A negative influence on the family and the society it is a part of, is when the behavior of a patient (smoking, excessive alcohol consumption, low socioeconomic status) is a favorable factor for the occurrence of cancer in the oral cavity (19).

The support of family and close friends, in the patient's healing process, is very important, and it should be unconditional (18, 19).

Measures for combating psychosocial deficiencies

The implementation of measures to ensure psychosocial adaptation to everything that involves a surgical intervention for the treatment of oral cancer is necessary as early as possible. These measures include interventions on distorted thoughts and negative emotions related to illness and surgery, as well as concerns related to one's health status and the impact on professional activity, interpersonal relationships and family life.

The surgical interventions that are performed to treat oral cancer have the most important psychosocial consequences and have an increased risk of favoring some psychological manifestations, such as anxiety, depression and social isolation. Thus, post-surgery scars on the face are still quite common, even if reconstructive surgery has advanced a lot. They negatively influence the way of perceiving one's body

image, favor the stigmatization of the patient and worsen the social isolation, reducing the possibilities of social adaptation in the postoperative period (5).

Psychosocial interventions must be initiated as early as possible, especially in the case of patients considered to have a higher risk of postoperative maladjustment, such as those with a low socioeconomic level, diagnosed with stage III or IV cancer, those with significant pain, major speech or feeding disorders (5).

In order to establish a series of special psychosocial intervention measures for this category of patients, who will undergo surgical interventions in the oral sphere, we should also use a series of methods or scales to evaluate the intensity and impact of some psychological manifestations (for example the fear of relapse), so that these implemented measures are effective and targeted. For example, anxiety has been evaluated in different clinical studies using the Hospital Anxiety and Depression Scale (HADS) or the State-Trait Anxiety Inventory, whose scores can be followed before and after the specific psychosocial intervention (20).

In recent years, numerous methods of psychosocial intervention have been developed to support the patients after the surgery in the oral sphere and which aims to develop skills to deal with the emotional manifestations and social consequences related to this medical condition. The goals of these interventions can be represented by the reduction of isolation, the feeling of alienation, anxiety, lack of hope and optimism regarding the future and the clarification or reinterpretation of erroneous information and thoughts (20,21,22).

The main psychosocial interventions used in the care of patients with oral cancer are (according to Fawzy 1995) (23):

- Psychoeducational intervention - which focuses on providing the patient with information about the disease and ways to manage its manifestations
- Individual psychotherapy - which aims to reduce the negative consequences of stress determined by diagnosis, treatment and surgical intervention, with a focus on the practical solution of some problems that may arise during this process
- cognitive-behavioral therapy, with the role of developing some adaptive mechanisms at the emotional and functional level
- group therapy, coordinated by a therapist or patients, through support groups, aims to normalize the experience represented by the therapeutic process of the disease, reduces social isolation, and supports

life expectancy in the patient group.

Conclusions

Progress in the treatment of oral cancer has made it possible to reduce morbidity and mortality. However, patients still experience numerous negative functional, psychological and social effects. The psychological suffering observed in maxillofacial cancer is perhaps greater than in the case of other locations due to the aesthetic consequences.

The quality of life of the oncological patient has recently become an intensively studied topic. This involves the evaluation of symptoms, side effects of treatment, physical, functional and performance consequences (9). Thus, it can be defined as the effect of cancer and treatment on the psycho-social profile of the patient and the way in which it reacts.

Although there is a high incidence of psychological distress in patients with oral cancer, there is little data in the literature on this topic. Knowing the predictors of psychological distress can help the physician identify the patients at risk. Effective rehabilitation with the help of reconstructive surgery, pain control and improving the coping style can improve their psychological outcome and overall quality of life.

REFERENCES

1. Pai AL, Drotar D, Zebracki K, Moore M, Youngstrom E. A meta-analysis of the effects of psychological interventions in pediatric oncology on outcomes of psychological distress and adjustment. *J Pediatr Psychol.* 2006 Oct;31(9):978-88.
2. van Wijk A, Buchanan H, Coulson N. Psychological interventions for reducing postoperative morbidity in dental surgery in adults. *Cochrane Database Syst Rev.* 2017.13;2017(9):CD007777.
3. So WK, Chan RJ, Chan DN, Hughes BG, Chair SY, Choi KC, Chan CW. Quality-of-life among head and neck cancer survivors at one year after treatment--a systematic review. *Eur J Cancer.* 2012;48(15):2391-408.

4. Chen SC, Huang BS, Lin CY. Depression and predictors in Taiwanese survivors with oral cancer. *Asian Pac J Cancer Prev.* 2013;14(8):4571-6.
5. Chen YW, Lin TR, Kuo PL, Lee SC, Wu KF, Duong TV, Wang TJ. Psychosocial Adjustment Changes and Related Factors in Postoperative Oral Cancer Patients: A Longitudinal Study. *Biomedicine.* 2022;12(12):3231.
6. Pace-Balzan A, Shaw RJ, Butterworth C. Oral rehabilitation following treatment for oral cancer. *Periodontol 2000.* 2011;57(1):102-17.
7. Valdez JA, Brennan MT. Impact of Oral Cancer on Quality of Life. *Dent Clin North Am.* 2018;62(1):143-154.
8. Funk GF, Karnell LH, Christensen AJ. Long-term health-related quality of life in survivors of head and neck cancer. *Arch Otolaryngol Head Neck Surg.* 2012;138(2):123-33.
9. Hassanein KA, Musgrove BT, Bradbury E. Psychological outcome of patients following treatment of oral cancer and its relation with functional status and coping mechanisms. *J Craniomaxillofac Surg.* 2005;33(6):404-9.
10. Grobbelaar EJ, Owen S, Torrance AD, Wilson JA. Nutritional challenges in head and neck cancer. *Clin Otolaryngol Allied Sci.* 2004;29(4):307-13.
11. Bolos A, Untu I, Radu D, Chirita R, Macovei G Depression of the elderly patients: focus on a single center study. *The Medical-Surgical Journal.* 2021;124 (4):534-541.
12. AS Szalontay, AE Grigorici, CŞ Prisacariu, CE Nedelcu, G Macovei The impact of depression on oral health condition. *Romanian Journal of Oral Rehabilitation.* 2021;13(2)
13. MC Bârlean, C Balcoş, L Bobu, G Macovei, AC Gamen, I Tărăboanță et al. Epidemiological evaluation of healthcare associated infections in the clinic of oral and maxilla-facial surgery "SF. SPIRIDON" Emergency Clinical Hospital Iasi, Romania. *Romanian Journal of Oral Rehabilitation.* 2020.12 (4)
14. Kovács AF, Stefenelli U, Thorn G. Long-term quality of life after intensified multi-modality treatment of oral cancer including intra-arterial induction chemotherapy and adjuvant chemoradiation. *Ann Maxillofac Surg.* 2015;5(1):26-31.
15. Reich M, Leemans CR, Vermorken JB, Bernier J, Licitra L, Parmar S, Golusinski W, Lefebvre JL. Best practices in the management of the psycho-oncologic aspects of head and neck cancer patients: recommendations from the European Head and Neck Cancer Society Make Sense Campaign. *Ann Oncol.* 2014;25(11):2115-2124.
16. Hanalis-Miller T, Nudelman G, Ben-Eliyahu S, Jacoby R. The Effect of Pre-operative Psychological Interventions on Psychological, Physiological, and Immunological Indices in Oncology Patients: A Scoping Review. *Front Psychol.* 2022. 14;13:839065.
17. Gouin JP, Kiecolt-Glaser JK. The impact of psychological stress on wound healing: methods and mechanisms. *Immunol Allergy Clin North Am.* 2011;31(1):81-93.
18. Johnston M. Anxiety in surgical patients. *Psychol Med.* 1980;10(1):145-52.
19. Rodríguez VM, Corona R, Bodurtha JN, Quillin JM. Family Ties: The Role of Family Context in Family Health History Communication About Cancer. *J Health Commun.* 2016;21(3):346-55.
20. Semple C, Parahoo K, Norman A, McCaughan E, Humphris G, Mills M. Psychosocial interventions for patients with head and neck cancer. *Cochrane Database Syst Rev.* 2013.16;(7):CD009441.
21. Crisan R-M, Bacila CI, Neamtu B, Cristian AN, Topîrcean E, Popescu A, Morar S. Psychological Autopsy and Forensic Considerations in Completed Suicide of the SARS-CoV-2 Infected Patients. A Case Series and Literature Review. *Applied Sciences.* 2021; 11(23):11547.

22. Crişan, RM., Băcilă, C.I. Morar, S. The role of psychological autopsy in investigating a case of atypical suicide in schizophrenia: a case report with a brief review of literature. *Egypt J Forensic Sci.*2022; 12:30.
23. Fawzy FI, Fawzy NW, Arndt LA, Pasnau RO. Critical review of psychosocial interventions in cancer care. *Arch Gen Psychiatry.* 1995;52(2):100-13.