

The Impact of Mental Interventions on Psychological Adjustment and Social Recovery in Patients with Oral and Maxillofacial Tumors: A Scoping Review

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Abstract

Background: Patients with oral and maxillofacial tumors often face severe psychological distress after surgery, which affects their rehabilitation and quality of life. While numerous related psychological intervention studies exist, the strategies vary, and their effectiveness remains unclear. There is an urgent need for systematic evaluation of existing interventions to provide a basis for developing targeted psychological support programs.

Objective: This scoping review aims to comprehensively evaluate psychological intervention strategies for patients undergoing surgical treatment for oral and maxillofacial tumors. By assessing the effectiveness of existing strategies and the theoretical models or behavior change techniques employed, the study seeks to provide evidence-based recommendations for designing targeted psychological intervention programs.

Methods: The review adheres to the methodological framework of Arksey and O'Malley and incorporates guidance from the Joanna Briggs Institute (JBI) for scoping reviews. A systematic search was conducted across PubMed, Embase, Web of Science Core Collection, CNKI, Wanfang, VIP, and SinoMed databases for studies published up to November 1, 2024. Two reviewers independently conducted literature screening and data extraction. Findings were integrated through descriptive analysis and social network analysis.

Results: A total of 88 studies published between 2004 and 2024 were included, covering 65 distinct intervention strategies and 37 outcome indicators. The interventions were founded on establishing trust between healthcare providers and patients, with health education as a cornerstone. Key strategies focused on individual psychological adjustment and behavioral change. Commonly reported outcomes included anxiety, depression, patient satisfaction, and quality of life. Social network analysis identified several behavior change strategies with high centrality, such as health education, psychological consolation, encouragement of self-expression and communication, relaxation training, mobilization of family and social support, cognitive-behavioral interventions, peer support, positive incentives, functional rehabilitation training, and meditation. These strategies demonstrated efficacy in alleviating psychological distress, facilitating cognitive restructuring, and improving quality of life and social functioning.

Conclusions: Patients undergoing surgery for oral and maxillofacial tumors face significant psychological and social challenges. The findings underscore the necessity of developing targeted, evidence-based psychological interventions tailored to the unique needs of this population, leveraging established behavior change techniques to improve postoperative psychological well-being and social recovery.

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Original Manuscript

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□Abstract□

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□**Keywords**□Oral and Maxillofacial Tumors; Mental Interventions; Psychological Health; Scoping Review

Introduction

Oral and maxillofacial tumors (OMT) refer to neoplasms originating in the oral cavity, maxillofacial region, and adjacent anatomical structures, including the lips, paranasal sinuses, jawbones, facial soft tissues, salivary glands, and occult primary sites^[1, 2]. With oral cancer (the 16th most common cancer globally) being the most prevalent type^[3]. Currently, Oral and maxillofacial tumors rank among the top ten malignancies worldwide^[3, 4], with over 610,000 new cases reported in 2022^[3]. Surgical resection combined with adjuvant radiotherapy and chemotherapy remains the cornerstone of treatment^[5]. However, following tumor excision and reconstructive surgery, patients often face challenges related to the loss of maxillofacial tissue and alterations in facial appearance. These changes not only result in physiological dysfunctions of the oral and maxillofacial regions but also negatively impact patients' psychological well-being and social interaction capabilities. Studies indicate that the prevalence of depression among patients with oral and maxillofacial tumors ranges from 16.3% to 65%^[6, 7], with over 50% experiencing substantial psychological distress^[8, 9]. These findings underscore the widespread and severe psychosocial issues encountered by this patient population. Psychological challenges, such as depression and low self-esteem, not only impair patients' quality of life but may also pose threats to their safety. For instance, the reported prevalence of suicidal ideation in oral cancer patients ranges from 0.26% to 18.7%, with an overall prevalence of 6%^[10].

Given the gravity of these issues, psychological interventions for this population are both critical and urgent. Various interventions have been proposed and implemented, including cognitive-behavioral therapy, psychological counseling and guidance, positive incentives, and music therapy^[11-13], aiming to help patients cope with disease-related psychological stress and improve their mental state. These interventions have demonstrated efficacy in alleviating depressive symptoms and psychological distress, serving as important measures to promote mental health and enhance quality of life. However, the effectiveness of these strategies often varies, largely depending on patients' active participation and consistent practice. Furthermore, the benefits of psychological interventions are not always enduring or significant^[14].

As the diversity of current intervention strategies and the uncertainty surrounding their long-term effectiveness, it is essential to systematically review existing studies to identify effective approaches. This study conducts a scoping review of psychological interventions targeting patients undergoing surgery for oral and maxillofacial tumors. By evaluating the effectiveness of various strategies and examining their underlying theoretical frameworks or behavior change techniques, aims to provide evidence-based guidance for the development of targeted psychological intervention programs.

Materials and Methods

This study was conducted following the scoping review framework proposed by Arksey and O'Malley^[15] and the methodology outlined by the Joanna Briggs Institute (JBI) for Evidence-Based Healthcare^[16]. Adhered to the following steps: (1) identifying research questions, (2) conducting a literature search, (3) selecting relevant studies, (4) extracting data, and (5) synthesizing,

summarizing, and reporting the results.

Identifying Research Questions

The specific research questions are as follows:

- What psychosocial issues might patients with OMT experience before/after surgery?
- How do these psychosocial issues affect the patients?
- What strategies have been employed to address the psychological rehabilitation of patients undergoing surgery for OMT? What theoretical frameworks or behavior change techniques were utilized?
- What are the outcomes of these interventions, and how do they impact the patients' psychological states?

Literature Search Strategy

A systematic search was conducted across PubMed, Embase, Web of Science Core Collection, CNKI, Wanfang, VIP, and SinoMed databases. The **English Mesh terms** included “Mouth Neoplasm/oral and maxillofacial tumor*” “Emotional Adjustment/Resilience, Psychological/social interaction/social isolation/Social Adjustment/Social Segregation/Phobia, Social/anxiety/Depression”. And "Oral and maxillofacial tumor/oral cancer/tongue cancer/gingival cancer/buccal mucosa cancer/parotid gland tumor/lip cancer/palatal tumor/salivary gland tumor/sublingual gland tumor/submandibular gland tumor/oral carcinoma" "Psychological adjustment/psychological resilience/psychological elasticity/psychological regulation/psychological adaptation/psychological stress/psychological coping/psychological state adjustment/emotional regulation/psychological intervention/anxiety/depression/loneliness/self-esteem/self-abasement" "Social recovery/social avoidance/social phobia/social anxiety/social interaction/interpersonal communication/social adaptation/social integration/social dysfunction/social barriers/social reconstruction/social impairment/social isolation/social reintegration" as English translations of **Chinese terms**. The search employed a combination of subject headings, free-text terms, synonyms, and truncation symbols. Citation tracking was also performed to ensure comprehensive coverage. The search period extended from the inception of each database to November 2024. As an example, the search strategy for PubMed is shown in Figure 1.

#1 (((((((((((((((((((Mouth Neoplasm[MeSH Terms]) OR (Mouth Cancer*[Title/Abstract])) OR (oral ? m axillofacial tumor*[Title/Abstract])) OR (Oral ? Facial Cancer[Title/Abstract])) OR (oral cavity cancer[Title/ Abstract])) OR (Oral Cavity Carcinoma[Title/Abstract])) OR (oral cancer[Title/Abstract])) OR (Oral Squam ous Cell Carcinoma[Title/Abstract])) OR (tongue carcinoma[Title/Abstract])) OR (Tongue Neoplasm[Title/A bstract])) OR (tongue cancer[Title/Abstract])) OR (gingival carcinoma[Title/Abstract])) OR (Gingival Neopl asm[Title/Abstract])) OR (gingival cancer[Title/Abstract])) OR (buccal mucosa cancer[Title/Abstract])) OR (buccal mucosa carcinoma[Title/Abstract])) OR (parotid gland tumor[Title/Abstract])) OR (parotid gland ne oplasm[Title/Abstract])) OR (Lip Neoplasms[Title/Abstract])) OR (Palatal Neoplasms[Title/Abstract])) OR (Salivary Gland Neoplasms[Title/Abstract])) OR (Sublingual Gland Neoplasms[Title/Abstract])) OR (Subma ndibular Gland Neoplasms[Title/Abstract]))

#2 (((((((((((((((((((Emotional Adjustment[MeSH Terms]) OR (Resilience, Psychological[MeSH Terms])) OR (psychological adjustment[Title/Abstract])) OR (psychological adaption[Title/Abstract])) OR (psychological r egulation[Title/Abstract])) OR (Psychological resilience[Title/Abstract])) OR (Adaptation & Validation ? the Psychological[Title/Abstract])) OR (mental adjustment[Title/Abstract])) OR (Psychological Responses[Title/ Abstract])) OR (Psychological Strain[Title/Abstract])) OR (emotion regulation[Title/Abstract])) OR (Emotio nal Adaptation[Title/Abstract])) OR (psychological intervention[Title/Abstract])) OR (Anxiety[Title/Abstract])) OR (Depression[Title/Abstract])) OR (Loneliness[Title/Abstract])) OR (Self-esteem[Title/Abstract])) OR (In feriority complex[Title/Abstract]))

#3 (((((((((((((((((((Social Adjustment[MeSH Terms]) OR (Phobia, Social[MeSH Terms])) OR (Social Segr egation[MeSH Terms])) OR (social interaction[MeSH Terms])) OR (social isolation[MeSH Terms])) OR (S ocial Adaptation[Title/Abstract])) OR (social avoidance[Title/Abstract])) OR (social impairments[Title/Abstra ct])) OR (social disorders[Title/Abstract])) OR (Social Anxiety Disorder[Title/Abstract])) OR (social barriers [Title/Abstract])) OR (social phobia[Title/Abstract])) OR (Social Evaluation Fear[Title/Abstract])) OR (Socia l Fear[Title/Abstract])) OR (Social Anxiety[Title/Abstract])) OR (social interaction[Title/Abstract])) OR (Soc ial Communication[Title/Abstract])) OR (interpersonal communication[Title/Abstract])) OR (social inclusion [Title/Abstract])) OR (Social Maladjustment[Title/Abstract])) OR (social dysfunction[Title/Abstract])) OR (So cial Exclusion[Title/Abstract]))

#4 #2 OR #3

#5 #1 AND #4

Fig1 Pubmed search strategy diagram

Inclusion and Exclusion Criteria

The inclusion and exclusion criteria for this study were developed based on the Population, Intervention, Comparison, Outcomes, and Study Design (PICOS) framework^[17]. The inclusion criteria were: ①Population: patients aged ≥ 18 years who underwent oral and maxillofacial tumor surgery; ②Intervention: any strategies aimed at addressing psychosocial issues, including but not limited to educational interventions, cognitive interventions, and behavior change strategies; ③Comparison: standard controls, placebo controls, or no-treatment controls. ④Outcomes: any psychosocial outcome indicators (at least one as the primary indicator) and quality of life; ⑤study design: interventional studies, such as randomized controlled trials (RCTs), quasi-experimental studies, or pre-and-post controlled trials. Studies were excluded if they: sample ≤ 20 non-Chinese or

non-English publications; systematic reviews based on single/multiple RCTs or quasi-experimental studies; case-based interventions; studies with poor methodological or reporting standards; duplicate publications; study protocols; and articles with inaccessible full texts.

Literature Screening and Data Extraction

Duplicate records were removed using NoteExpress. Two researchers independently screened the titles and abstracts of the identified studies based on the inclusion and exclusion criteria. Full texts of potentially relevant studies were further reviewed to confirm eligibility. In cases of disagreement, a third researcher was consulted to resolve discrepancies. The two researchers then independently extracted data from the included studies, including general information (author, publication year, and country/region), sample characteristics (sample size and age), type of control group, intervention details (content, behavior change techniques, and intervention duration), and reported outcomes (outcome indicators, measurement methods, effectiveness).

The extracted data were integrated using general descriptive analysis and social network analysis. **Descriptive analysis** was employed to summarize the general information, sample characteristics, types of control groups, and the effectiveness of intervention strategies. **Social network analysis**, performed using the Ucinet software^[18], was used to construct networks and evaluate the degree centrality of outcome indicators and the theories or behavior change techniques utilized in the interventions. This method aimed to systematically elucidate the network relationships between various theories and techniques. In social network analysis, "centrality" is a commonly used metric that indicates the importance of a node within the network. "Degree centrality", in particular, measures the actual number of connections a node has within the network, including both absolute and relative centrality. A higher degree centrality indicates that the "keyword" is more important within the overall network^[19]. The operational steps are as follows: constructing an Excel binary data matrix where rows represent the study and columns represent target keywords. Each cell was marked with "0" (absence) or "1" (presence) to indicate whether the "keyword" was present. The binary matrix was then converted into a column-mode one-mode matrix using Ucinet's data transformation function, and the degree centrality of the "target keywords" was analyzed. A visual network analysis was performed using Ucinet's external visualization tool "Netdraw".

Results

Literature Selection Results

A total of 1,105 articles were initially identified through database searches and citation tracing. After removing duplicates using NoteExpress, 850 articles remained. Following a review of titles and abstracts, 206 articles were retained for further consideration. After a full-text review, 88 articles

were ultimately included. The literature-selecting process is illustrated in Figure 2.

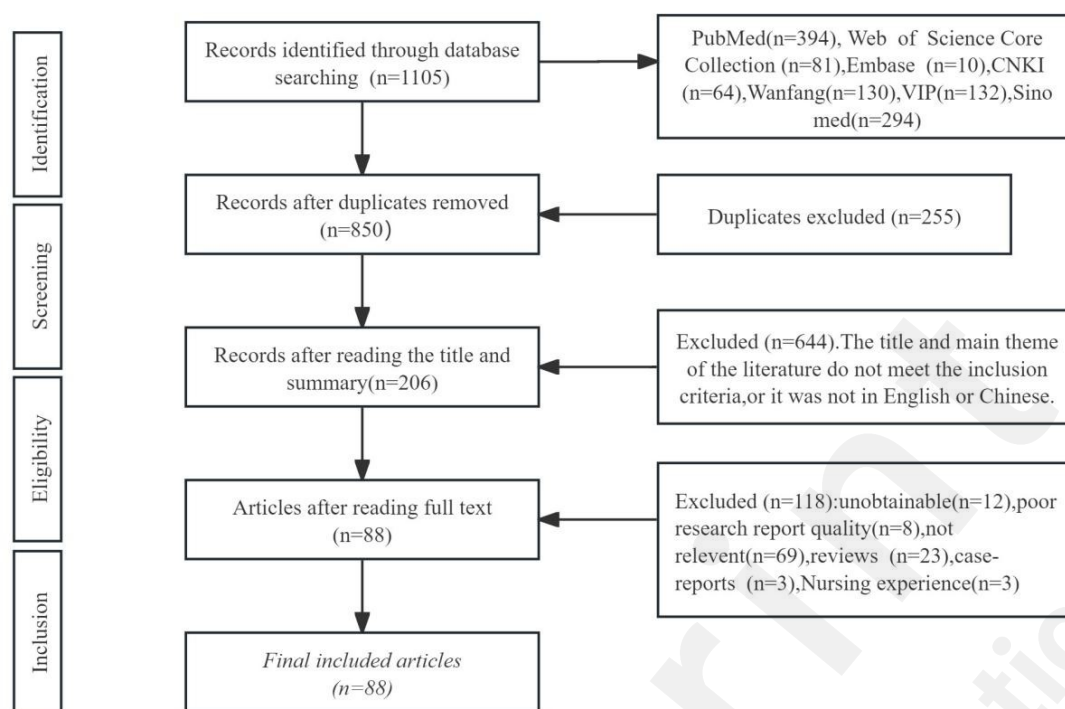


Fig2 Flow chart of literature selection

Basic Information of Included Studies

The 88 included studies were published between 2004 and 2024, originating from mainland China (n=83), Taiwan, China (n=1), India (n=2), Italy (n=1), and Canada (n=1). These studies included 55 randomized controlled trials (RCTs), 27 quasi-experimental studies, 5 pre-post self-controlled studies, and 1 orthogonal experimental design. Sample sizes ranged from 20 to 218, with a total of 7,266 participants, aged 18 to 88 years. The control groups in most studies consisted of routine or standard care. These studies described various psychosocial issues faced by patients after oral and maxillofacial tumor surgery, involving 65 different intervention strategies and 37 outcome measures. The details of these 88 records are available via

<https://pan.baidu.com/s/1tnLubHEBfleHxz8RDW1MpQ?pwd=8888>.

Psychosocial Issues in OMT Patients

Due to the unique anatomical characteristics of the oral and maxillofacial region, it plays a significant role in individuals' physiological functions, psychological well-being, and social interactions. The National Comprehensive Cancer Network (NCCN) defines the psychosocial difficulties faced by cancer patients as "distress"^[5]. In multiple independent studies, oral and maxillofacial tumor patients commonly experience anxiety, depression, reduced self-worth, loneliness, hopelessness, and social isolation^[8, 9, 20]. These psychosocial issues not only negatively

affect treatment outcomes^[21], but also have the potential to severely damage patients' family and social relationships, thereby directly impacting their psychological recovery process^[22].

Among the 88 studies, 90% utilized self-assessment tools, such as questionnaires, scales, and measurement rulers, with a total of 37 outcome indicators. In the degree centrality analysis of "outcome indicators", the overall network had an average centrality of 23.24 and a network density of 8.22%, indicating that a wide variety of outcome measures were used in the studies, with minimal overlap between them. Indicators such as anxiety, depression, patient satisfaction, quality of life, complications, and psychological resilience showed higher Degree Centrality (Table 1), reflecting researchers' preference for these indicators. In addition, some studies also measured patients' perioperative vital signs and laboratory physiological stress markers, such as serum cortisol, prolactin (PRL), interleukin-6 (IL-6), adrenocorticotrophic hormone (ACTH), and vascular endothelial growth factor (VEGF), which are considered related to psychological stress and distress in patients^[12].

Table 1 Degree Centrality of Outcome Indicators Used in Included Studies

Outcome Indicator	Degree	NrmDegree	Share	Outcome Indicator	Degree	NrmDegree	Share
Anxiety	152.00	9.179	0.177	Body dysmorphic disorder	8.000	0.483	0.009
Depression	138.00	8.333	0.160	Swallowing function	8.000	0.483	0.009
Satisfaction	83.000	5.012	0.097	Stigmatization	8.000	0.483	0.009
Quality of life	81.000	4.891	0.094	Cancer-related fatigue	7.000	0.423	0.008
Complication	38.000	2.295	0.044	Sense of life meaning	6.000	0.362	0.007
Psychological resilience	25.000	1.510	0.029	Post-traumatic growth	6.000	0.362	0.007
Compliance	25.000	1.510	0.029	Disease Intrusiveness	6.000	0.362	0.007
Self-efficacy	24.000	1.449	0.028	Health knowledge	6.000	0.362	0.007
Sleep Quality	23.000	1.389	0.027	Well-being	6.000	0.362	0.007
Self-care ability	22.000	1.329	0.026	Self-identity	6.000	0.362	0.007
Self-esteem	21.000	1.268	0.024	Nursing comfort	6.000	0.362	0.007
Mental state	21.000	1.268	0.024	Perceived Stress	5.000	0.302	0.006
Hope index	20.000	1.208	0.023	stigma	5.000	0.302	0.006
Language function	18.000	1.087	0.021	Self-perceived burden	4.000	0.242	0.005
Coping mode	18.000	1.087	0.021	Social support	4.000	0.242	0.005
Quality of survival	18.000	1.087	0.021	Readiness for discharge	3.000	0.181	0.003
Physiological stress	15.000	0.906	0.017	Inferiority	2.000	0.121	0.002
Nutritional status	11.000	0.664	0.013	Illness Perception	1.000	0.060	0.001
Pain	10.000	0.604	0.012				

Psychological Rehabilitation Strategies and Their Effects

In this study, 14 studies explicitly reported the theoretical foundations used and developed specific psychological intervention programs based on these theories. Such as cognitive-behavioral theory^[23, 24], the Rosenthal effect^[25], the ABC model of emotion theory^[26-28], self-efficacy theory^[29],

Maslow's hierarchy of needs^[30], Meleis' theory of transitions^[31], the health belief model^[32], Yalom's interpersonal group dynamics model^[33-35], and empathy theory^[36], among others. Although some studies did not explicitly describe their theoretical foundations, analysis of their intervention strategies revealed that many could be categorized under cognitive-behavioral therapy (CBT), with prominent behavioral techniques including rational emotive therapy, cognitive restructuring, and attribution adjustment. The interventions of 88 studies varied in duration and frequency, ranging from a single intervention (90 minutes) to 4 weeks, 6 weeks, 8 weeks, 3 months, and up to 6 months. Twelve studies employed repeated measures to determine the optimal duration for maximizing benefits, and most studies reported a linear correlation between effect size and intervention duration. Most interventions were conducted within hospitals, while some were extended through platforms such as WeChat, phone calls, or community-based treatments. These intervention strategies were founded on establishing a trust-based relationship and utilized health education as the most basic approach, either on an individual or group level, to promote cognitive restructuring. The providers of these strategies included oncologists, nurses, psychologists, rehabilitation therapists, family members, and fellow patients.

In the co-occurrence network diagram of "behavioral intervention techniques" (Figure 3), the network consisted of 65 nodes, representing 65 different behavioral intervention techniques, with an average centrality of 39.72 and a network density of 11.36%. The top 10 behavioral change techniques based on degree centrality were: health education, psychological consolation, encouragement for expression and communication, relaxation training, mobilizing family and social support, cognitive-behavioral intervention, patient peer interaction, positive incentives, functional rehabilitation training, and meditation/imagery therapy. On average, each study used 5.49 behavioral change techniques (ranging from 1 to 12, with a median of 5 and a mode of 6). Four studies incorporated more than 10 behavioral change techniques in their intervention designs. All 88 studies reported the effectiveness of the interventions in improving patients' psychological states.

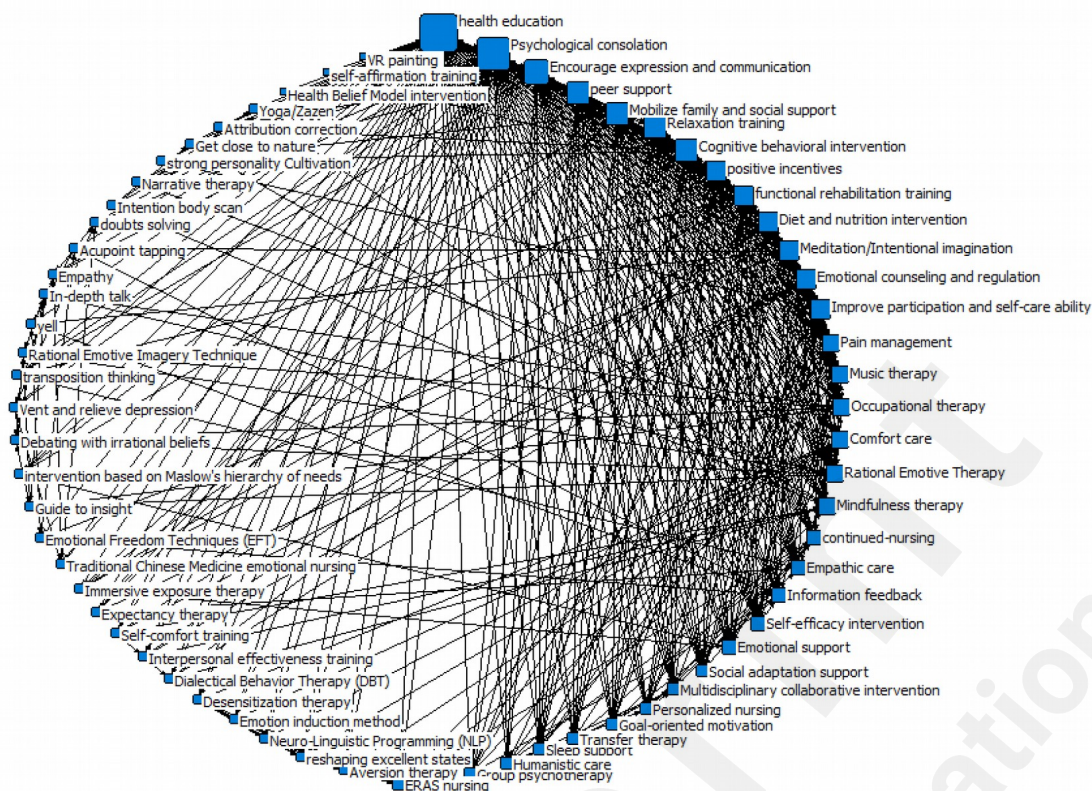


Fig 3 Co-occurrence Map of Behavior Change Techniques Based on Degree Centrality

Discussion

The facial region, as the primary sensory area for communication with the outside world, plays a critical role as an individual's "gateway". Compared to tumors in other parts of the body, oral and maxillofacial tumors tend to have a more profound psychological impact on patients, with a higher prevalence of depression than the general population^[37]. Issues such as tumor-induced pain, changes in appearance, discomfort during treatment, and a relatively low five-year survival rate^[38], can impose immense psychological stress on patients, leading to emotional fluctuations and triggering a series of psychological disorders. This, in turn, results in shorter survival and poorer quality of life^[39, 40], forming a vicious cycle. Post-surgery, patients may experience alterations in facial appearance and face numerous challenges in communication and eating. These challenges not only negatively affect their daily quality of life^[41] but also may trigger feelings of inferiority and self-denial in social environments, leading to social avoidance and negatively impacting the formation and maintenance of social relationships^[42].

This study explored the application and effectiveness of current psychological intervention strategies in patients with oral and maxillofacial tumors. Some intriguing theories were identified, such as the ABC model of emotion. In this model, A (Activating event) refers to the triggering event; B (Beliefs) represents the individual's beliefs, perceptions, and interpretations of the event; and C

(Consequence) refers to the emotional and behavioral outcomes that result from specific beliefs (B) about the event (A)^[43]. This theory posits that when facing the same triggering event (A), individuals may hold different beliefs, viewpoints, or interpretations (B), leading to varying emotional and behavioral outcomes (C). The generation of anxiety and fear was arisen from incorrect cognitive beliefs about the triggering event. Psychological interventions based on this theory focus on correcting patients' "incorrect cognition", thereby improving their psychological state. Thus, interventions such as the ABC model, cognitive restructuring, attribution adjustment, and mindfulness therapy all fall under the category of cognitive-behavioral therapy (CBT). Additionally, activating the patient's family and social support system, as well as promoting interaction among patients, are strategies based on social support theory. According to social support theory, the social support an individual receives when facing life challenges is a key element in enhancing their mental health and quality of life^[44, 45]. This theory emphasizes the positive effects of social networks, family relationships, and community services on individual health and recovery. Patients with higher levels of social support tend to have better physical and mental health outcomes compared to those with low levels of social support^[22].

Some studies focus on the management of pain, sleep, diet, and nutrition, as well as the rehabilitation of oral physiological functions, aiming to improve the psychological well-being of patients. Pain, as an independent prognostic factor influencing survival, has a negative correlation with survival rates^[46]. It activates multiple brain regions, such as the anterior cingulate cortex (ACC) and the ventral tegmental area (VTA), which processes pain information and mediates related negative emotional changes^[47, 48]. Sleep deprivation affects the hypothalamic-pituitary-adrenal (HPA) axis, leading to elevated stress hormone levels and emotional responses like anxiety^[49]. Therefore, interventions aimed at improving patients' psychological health from the perspective of physiological regulatory mechanisms are also beneficial. Moreover, encouraging patients to communicate and express emotions, and use relaxation therapies is quite common in these interventions. Among these strategies, health education serves as the most basic measure and runs throughout.

Regarding the optimal duration of interventions, no definitive recommendations has been reached. Among the included studies, the longest follow-up period was six months after the initial intervention. Some studies reported a linear relationship between effect size and intervention duration^[50], suggesting that longer intervention durations are associated with greater effect sizes. However, other studies have pointed out^[14] that intervention effects do not necessarily show a positive correlation with longer durations. Instead, effectiveness is closely linked to the patient's active participation and sustained practice.

Limitations

This scoping review provides a clear pathway for understanding the progress of psychological interventions for oral and maxillofacial tumor patients, based on current and past research, and offers valuable reference points for the development of future interventions for such patients. However, several limitations should be acknowledged: Given that the effectiveness of psychological interventions is influenced by various factors such as geographic location, patient demographics, participation levels, continuity of practice, interactivity, and study design^[51], it remains challenging to provide a definitive recommendation regarding the optimal frequency and duration of interventions. Additionally, the successful implementation of intervention strategies requires close collaboration among interdisciplinary teams, which may pose challenges in busy clinical settings. Therefore, balancing these two aspects remains an urgent issue that requires further attention.

Implications for Future Practice

Future research should further explore the optimal practice models for psychological interventions, considering how to integrate them into routine medical care. Additionally, studies should assess the adaptability and feasibility of different intervention strategies across diverse cultural contexts and clinical settings. Embracing modern information technologies, such as mobile health applications and virtual reality, could enhance the accessibility and appeal of these interventions. In this process, practitioners are encouraged to flexibly choose appropriate intervention techniques to achieve optimal psychological rehabilitation outcomes. Furthermore, an in-depth analysis of the long-term effects and cost-effectiveness of psychological rehabilitation interventions will provide a piece of more comprehensive and scientific evidence for healthcare decision-making.

Conclusion

In summary, the application of psychological rehabilitation interventions during the treatment of oral and maxillofacial tumor patients has demonstrated significant clinical value. With the help of effective psychological intervention strategies (such as cognitive behavioral therapy, relaxation training, physiological rehabilitation training, exposure therapy, and occupational therapy), patients' psychological conditions and treatment outcomes can be improved, so as to quality of life. Theoretical frameworks represented by cognitive-behavioral theory, social support theory, and self-efficacy theory have led to the development of various psychological intervention strategies, the selection of which should be tailored to specific circumstances. In the future, interdisciplinary collaboration, the application of digital technologies, and the exploration of the long-term effects of psychological interventions will contribute to providing more comprehensive and efficient

psychological rehabilitation support for patients.

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Disclosures of Interest

The authors of this article declare no conflicts of interest.

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