

The Application Effect of Oral Care Combined with Psychological Intervention on Improving Patients' Oral Hygiene and Negative Emotions

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Abstract: *Objective:* To explore the application effect of oral care combined with psychological intervention on improving patients' oral hygiene and alleviating negative emotions. *Methods:* A total of 78 patients admitted to the hospital between January and December 2023 were recruited and divided into two groups using a random number table method, each group consists of 39 cases. The control group received routine care, while the study group received oral care combined with psychological intervention. Oral health scores and the patients' negative emotional states were compared between the two groups. *Results:* The oral health score of the study group (35.66 ± 5.69) was significantly better than that of the control group (26.36 ± 6.21 ; $P < 0.05$). Additionally, the depressed mood and anxiety scores of the study group (27.69 ± 6.12 and 26.36 ± 6.21 , respectively) were significantly lower than those of the control group (36.23 ± 5.98 and 35.66 ± 5.69 , respectively; $P < 0.05$). *Conclusion:* Clinical research combining routine care, psychological intervention, and oral care has revealed that the combined approach significantly enhances patients' treatment adherence, alleviates negative emotions, and improves their quality of life.

Keywords: Oral care; Psychological intervention; Oral hygiene; Negative emotion

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1. Introduction

The oral cavity serves as a vital organ in the human body, crucial for normal digestion, respiration, circulation, and other essential physiological functions. Maintaining oral hygiene is paramount for the prevention of oral diseases. Effective oral care can uphold oral hygiene, diminish the likelihood of bacterial infections, and thwart various oral ailments. Additionally, oral care aids in alleviating patients' psychological stress, enhancing treatment adherence, and expediting recovery from illnesses^[1,2].

In clinical nursing, hospitals endeavor to enhance patients' oral hygiene and psychological well-being while mitigating negative emotions stemming from illnesses^[3,4]. To achieve this, hospitals integrate oral care with psychological intervention alongside routine care. This combined approach not only improves oral hygiene and averts oral diseases but also assists patients in adjusting their mental state, alleviating negative emotions

such as anxiety and depression, thereby enhancing the therapeutic outcomes. Previous research indicates that combined oral care significantly enhances patients' compliance with treatment, reduces psychological stress, and ameliorates negative emotions ^[5,6].

Although scholars worldwide have made considerable progress in oral care and psychological intervention, studies on their integrated application remain limited. Particularly, research comprehensively examining the joint effects on enhancing patients' oral hygiene and ameliorating negative emotions is scarce. This clinical study, combining routine care with psychological intervention and oral care, aims to compare and observe the treatment effects of the approach. Given the significance of oral health in national healthcare, preventing and treating oral diseases holds immense importance. The findings of this study are anticipated to offer novel insights and methods for oral disease prevention and treatment, thereby fostering the sustained advancement of oral health initiatives.

2. Materials and methods

2.1. General information

A total of 78 patients admitted to the hospital between January and December 2023 were recruited and divided into two groups using a random number table method, each group consists of 39 cases. Among them, 42 were males and 36 were females, aged between 14 and 75 years, with an average of 53.61 ± 14.12 years. All patients underwent examination and were diagnosed with oral diseases, presenting active bleeding. Upon admission to the hospital, they received conventional treatment. Inclusion criteria comprised patients with a clear understanding of the study's purpose, methods, possible risks, and benefits, who voluntarily signed an informed consent form to participate. Additionally, patients required a clear need to improve oral hygiene, such as poor oral hygiene, oral odor, or plaque presence, and demonstrated a certain level of psychological tolerance, willing to accept interventions like psychological counseling or cognitive-behavioral therapy. Patients were excluded if they faced language barriers, hearing or vision impairments hindering effective communication with researchers, suffered from serious oral diseases (e.g., periodontal disease, dental caries), suffered from severe psychiatric-psychological disorders (e.g., schizophrenia, depression), had significantly deteriorated oral hygiene affecting their basic quality of life, refused psychological interventions, or were concurrently participating in other research projects, posing potential interfering factors.

2.2. Methods

The control group received routine care, including environmental cleaning, psychological guidance, and dietary advice. Meanwhile, the study group underwent oral care combined with psychological interventions in addition to routine care, encompassing:

- (1) Oral care program: Patients received basic oral cleaning at least twice daily, involving tooth brushing, flossing, and mouthwash. Recommendations included the use of soft-bristled toothbrushes and fluoride toothpaste to minimize tooth and gum irritation. Personalized oral health education covered proper brushing techniques, flossing methods, mouthwash selection, and the importance of regular toothbrush and dental floss replacement. Regular oral examinations were conducted by professional dentists to detect and address oral issues promptly. Patients with oral diseases received necessary professional treatments like dental cleaning, periodontal treatment, or caries repair.
- (2) Psychological intervention program: Individual psychological counseling sessions tailored to each patient's needs helped them recognize and manage factors contributing to negative emotions. Patients learned stress and challenge coping strategies by altering negative thinking patterns and behaviors.

Relaxation techniques such as deep breathing and progressive muscle relaxation were taught to alleviate tension and enhance mental resilience in daily life. Mental health education aimed to enhance patients' understanding of negative emotional causes and coping mechanisms, boosting their psychological self-adjustment abilities. Patients were encouraged to maintain social connections with family and friends for additional support and to participate in mutual support groups to share experiences.

- (3) Joint intervention strategy: Oral care and psychological interventions were coordinated synergistically to optimize patients' oral hygiene and alleviate negative emotions. Regular assessments of oral hygiene and psychological status guided intervention adjustments to ensure effectiveness. Dentists and psychological counselors collaborated closely to formulate and implement comprehensive intervention plans, ensuring patients received comprehensive and effective treatment.

2.3. Observation indicators

Oral health scores and negative emotions of patients in both groups were compared.

2.4. Statistical analysis

Data were analyzed using SPSS 18.0 software. Categorical data were analyzed using the chi-squared test, with rates expressed as %, while continuous data were analyzed using the *t*-test and expressed as mean \pm standard deviation (SD). Differences with $P < 0.05$ were considered statistically significant.

3. Results

3.1. Oral health scores

Table 1 shows that the oral health score of the study group (35.66 ± 5.69) is significantly better than that of the control group (26.36 ± 6.21 ; $P < 0.05$).

Table 1. Comparison of oral health scores of patients in two groups

	Cases	Oral health score
Control group	39	26.36 ± 6.21
Study group	39	35.66 ± 5.69
<i>t</i>		6.8956
<i>P</i>		< 0.05

3.2. Negative emotional conditions

The scores of depressed mood and anxiety in the study group were 27.69 ± 6.12 and 26.36 ± 6.21 , respectively, which were significantly lower than the scores of depressed mood and anxiety in the control group, which were 36.23 ± 5.98 and 35.66 ± 5.69 , respectively ($P < 0.05$), as shown in **Table 2**.

Table 2. Comparison of negative emotional conditions between the two groups of patients

	Depression	Anxiety
Study group ($n = 39$)	27.69 ± 6.12	26.36 ± 6.21
Control group ($n = 39$)	36.23 ± 5.98	35.66 ± 5.69
<i>t</i>	6.2329	6.8956
<i>P</i>	< 0.05	< 0.05

4. Discussion

Oral diseases, affecting the oral mucosa and teeth, constitute a class of chronic ailments where clinical treatment should not solely focus on disease management but also address patients' psychological well-being. Oral care emerges as a crucial therapeutic approach, effectively enhancing patients' oral hygiene, averting bacterial infections, and concurrently alleviating psychological stress, thus improving treatment compliance [7]. Moreover, oral care contributes to bolstering the body's immunity and fortifying patients' ability to combat diseases. Clinical studies have highlighted poor treatment compliance among patients with oral diseases, resulting in suboptimal therapeutic outcomes, underscoring the imperative for psychological interventions in clinical nursing [8].

In clinical nursing, oral care represents a fundamental nursing measure primarily aimed at maintaining oral cleanliness, mitigating bacterial proliferation, and preventing oral diseases. Continuous adherence to oral care is pivotal for patients' disease recovery, underscoring its significance in clinical practice. However, challenges such as patients' inadequate treatment compliance and recurrent oral issues often impede optimal patient outcomes [9]. Therefore, joint psychological interventions are clinically essential to enhance treatment compliance. Notably, psychological factors intricately intertwine with oral health, and interventions targeting these factors effectively alleviate patients' psychological distress and negative emotions, thus ameliorating their oral health status. Patients' treatment compliance correlates closely with their psychological factors; hence, psychological interventions, coupled with routine care, effectively enhance treatment compliance. However, it is noteworthy that while the combined oral care method improves treatment compliance, it entails increased examination frequency and associated costs compared to conventional oral care, necessitating judicious utilization based on clinical realities. Furthermore, nurses' subjective initiative and creativity play pivotal roles in executing joint oral care initiatives [10,11]. Therefore, the application of the combined oral care approach should align with specific research contexts.

In this study, the study group exhibited significantly superior oral health scores (35.66 ± 5.69) compared to the control group (26.36 ± 6.21 ; $P < 0.05$). Similarly, scores for depressed mood and anxiety were significantly lower in the study group (27.69 ± 6.12 and 26.36 ± 6.21 , respectively) than in the control group (36.23 ± 5.98 and 35.66 ± 5.69 , respectively; $P < 0.05$). These findings underscore the efficacy of combining psychological intervention, routine care, and oral care in enhancing treatment adherence and ameliorating negative emotions. Several factors contribute to these outcomes: (1) Psychological intervention fosters a positive attitude, reducing anxiety; (2) Routine care maintains oral hygiene effectively, diminishing bacterial infection risks; (3) Oral care, being non-invasive, alleviates patient discomfort.

In summary, the clinical integration of routine care, psychological intervention, and oral care significantly enhances treatment compliance, mitigates negative emotions, and improves quality of life, underscoring its positive implications. Future research avenues could explore interdisciplinary collaborations among dentistry, psychology, nursing, and other fields, focusing on personalized oral care and psychological intervention programs tailored to individual patient variances. Moreover, interdisciplinary research teams could devise comprehensive and refined strategies by integrating their respective knowledge and technologies. Exploring emerging technologies such as virtual reality (VR) and augmented reality (AR) for more immersive oral health education experiences holds promise. Continuous research endeavors are anticipated to yield scientific and effective methodologies and tools to enhance patients' oral hygiene and alleviate negative emotions.

Disclosure statement

The author declares no conflict of interest.

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