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EDITORIAL

Byeon H. Enhancing orthodontic osteodilated arch treatment through comprehensive nursing interventions and cognitive behavioral therapy. *World J Clin Cases* 2025; 13(12): 99301 [DOI: [10.12998/wjcc.v13.i12.99301](https://doi.org/10.12998/wjcc.v13.i12.99301)]

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MINIREVIEWS

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LETTER TO THE EDITOR

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Peer Reviewer of *World Journal of Clinical Cases*, Bijnya Birajita Panda, MD, Assistant Professor, Department of Ophthalmology, All India Institute of Medical Sciences, Bhubaneswar 751019, India. bigyan_panda@yahoo.co.in

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Enhancing orthodontic osteodilated arch treatment through comprehensive nursing interventions and cognitive behavioral therapy

Haewon Byeon

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Haewon Byeon, Department of Digital Anti-aging Healthcare (BK21), Inje University, Gimhae 50834, South Korea

Corresponding author: Haewon Byeon, DSc, PhD, Associate Professor, Director, Department of Digital Anti-aging Healthcare (BK21), Inje University, 197 Injero, Gimhae 50834, South Korea. bhwpuma@naver.com

Abstract

Orthodontic osteodilated arch treatment represents a pivotal approach in dental orthodontics to address dental crowding and misalignment. Integrating cognitive behavioral therapy (CBT) into comprehensive nursing interventions (CNI) aims to address these issues holistically. This editorial explores the effectiveness of CBT-based CNI in improving patient outcomes in orthodontic care. Innovations in remote CBT delivery, such as virtual reality, have also shown potential in reducing pain, anxiety, and depression, emphasizing CBT's adaptability in orthodontic settings. The findings underscore the importance of integrating psychological support into orthodontic care to enhance patient adherence, satisfaction, and overall treatment success. The editorial advocates for a holistic approach that combines psychological and physiological care, highlighting the transformative potential of CBT-based interventions in orthodontic treatment.

Key Words: Cognitive behavioral therapy; Comprehensive nursing interventions; Orthodontic care; Patient compliance; Psychological well-being

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Core Tip: Integrating cognitive behavioral therapy (CBT)-based comprehensive nursing interventions into orthodontic care significantly enhances patient outcomes by addressing both psychological and physiological aspects. This holistic approach not only reduces common complications such as oral mucositis but also improves patient mastery of technical skills and psychological well-being. By reducing anxiety and promoting better self-care behaviors, CBT-based interventions foster higher patient compliance and satisfaction, ultimately leading to more successful treatment outcomes. The adaptability of CBT, including innovations like virtual reality, further underscores its potential in transforming orthodontic care practices.

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INTRODUCTION

Orthodontic osteodilated arch (OOA) treatment represents a pivotal approach in dental orthodontics to address dental crowding and misalignment. Such adverse effects can reduce treatment compliance and its overall success, emphasizing the need for innovative strategies to enhance patient experiences and outcomes[1]. Cognitive behavioral therapy (CBT), known for its effectiveness in managing pain and psychological conditions, offers a promising avenue for improving patient comfort and adherence during orthodontic treatments when incorporated into comprehensive nursing interventions (CNI).

Meanwhile, another aspect of orthodontic care that has received attention is the decision-making process. A deeper understanding of these cognitive processes and biases can further enhance the quality of orthodontic care by promoting more efficient and evidence-based decision-making[2].

CBT IN ORTHODONTIC CARE

CBT is a psychological treatment aimed at modifying patients' thought and behavior patterns to relieve both mental and physical symptoms. Its efficacy has been extensively validated across various patient populations, demonstrating significant benefits in managing chronic pain, anxiety, and depression, which are common concerns in orthodontic care. A systematic review underscores the robustness of traditional CBT in significantly reducing symptoms of depression and anxiety in individuals suffering from chronic pain and psychological distress. Additionally, an arts-based hybrid CBT intervention[3-5]. It showed remarkable results in diminishing pain intensity and depressive symptoms, enhancing emotional distress tolerance, and improving global health-related quality of life in patients with chronic pain. Innovations in remote CBT delivery, such as utilizing virtual reality[6], have also been explored, showcasing reduced pain, anxiety, and depression in patients with chronic cervical and lumbar spondylitic pain.

COMPREHENSIVE NURSING INTERVENTION MODEL

The CNI, which synergizes with the principles of CBT, emphasizes a holistic approach to patient care within the context of orthodontic treatment. It integrates cognitive education, psychological counseling, behavior training, and emotional support, specifically tailored to each patient's unique needs. This methodological blueprint aims to address the multifaceted aspects of patient care, covering both physiological and psychological aspects to foster an environment conducive to overall well-being. Within orthodontic treatment, such comprehensive and multifaceted strategies are critical, as they can significantly impact patient compliance and outcomes by enhancing psychological support and fostering behavioral modifications.

METHODOLOGY AND FINDINGS

Yang *et al*[7] embarked on a randomized clinical trial including 81 patients undergoing OOA treatment, segregating them into two distinct groups. One group received routine nursing care, while the observation group received a CNI based on CBT principles. Significant improvements were also observed in the psychological well-being of patients in the observation group, with a substantial reduction in self-rating anxiety scale scores post-intervention. This suggests that CBT effectively alleviates treatment-related anxiety, contributing to enhanced patient comfort and compliance, and thereby improving overall treatment outcomes. The observation group also exhibited high levels of patient compliance (90.24%) and satisfaction (95.12%), significantly higher than those in the control group[7]. These findings underscore the indispensable role of integrating psychological support frameworks, such as CBT-based CNI, into orthodontic care. Such

integration not only elevates patient adherence and satisfaction but also significantly enhances the treatment landscape by addressing both technical and emotional aspects of orthodontic interventions.

DISCUSSION

The study by Yang *et al*[7] underscores the pivotal role of CBT-based CNI in orthodontic treatment, marking a significant advancement in enhancing patient outcomes through a model that addresses both psychological and physiological aspects of care.

The successful integration of CBT within nursing interventions represents a crucial shift towards a holistic approach in patient care, emphasizing the symbiotic relationship between mind and body[8]. By alleviating physical symptoms while managing psychological stress, this approach enhances patient comfort and fosters a more empowering and positive treatment experience[9].

The implications of integrating psychiatric nurses – who excel in patient-centered care – into orthodontic treatment teams are profound, highlighting the potential for telemental health models to revolutionize care delivery, particularly in patient-centric approaches[8]. Furthermore, the tangible benefits of empathic care, as evidenced in patients with cervical cancer, highlight significant advancements in understanding patient needs and improving clinical outcomes[10,11]. The integration of these advancements with orthodontic care models suggests a promising trajectory toward more effective treatment methodologies.

CONCLUSION

The promising outcomes associated with CBT-based CNI in orthodontic treatments, as well as its broader applications in healthcare, underscore the imperative for its adoption as a cornerstone in patient-centered care. Future research endeavors should not only focus on replicating these findings across larger and more diverse population samples but also explore the potential for CBT's integration into other fields of medical and dental treatment. Such efforts will not only validate the initial findings but also expand the horizon of CBT applications, paving the way for a holistic, patient-centered healthcare paradigm.

FOOTNOTES

Author contributions: Byeon H designed the study, involved in data interpretation, developed methodology, performed the statistical analysis, and assisted with writing the article; the author read and approved the final version of the manuscript to be published.

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Country of origin: South Korea

ORCID number: Haewon Byeon [0000-0002-3363-390X](https://orcid.org/0000-0002-3363-390X).

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