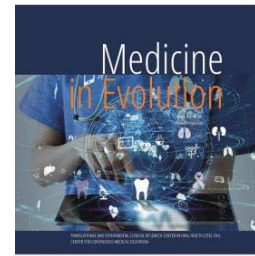


Impact of Myasthenia Gravis on Oral Health-Related Quality of Life: A Multidisciplinary Perspective

<https://doi.org/10.70921/medev.v31i1.1265>



Doina Chioran¹, Octavia Balean², Atena Galuscan², Ioan-Alexandru Simerea^{2,3}, Lucian Floare^{2,3}, Delia Abrudan-Luca^{2,3}, Ruxandra Sava-Rosianu², Ramona Dumitrescu²

¹Department of Anesthesiology and Oral Surgery, Research Center in Dental Medicine Using Conventional and Alternative Technologies, "Victor Babes" University of Medicine and Pharmacy, Eftimie Murgu Sq. No. 2, 300041 Timisoara, Romania

²Translational and Experimental Clinical Research Centre in Oral Health, Department of Preventive, Community Dentistry and Oral Health, University of Medicine and Pharmacy "Victor Babes", 30004 Timisoara.

³Doctoral School, "Victor Babes" University of Medicine and Pharmacy Timisoara, Eftimie Murgu Square 6 No. 2, 300041 Timisoara, Romania

Correspondence to:

Name: Octavia Balean

E-mail address: balean.octavia@umft.ro

Name: Ruxandra Sava-Rosianu

E-mail address: savarosianu@yahoo.com

Received: 5 March 2025; Accepted: 17 March 2025; Published: 31 March 2025

Abstract

1. Background/Objectives: Myasthenia gravis (MG) is a chronic autoimmune neuromuscular disorder that impairs nerve impulse transmission, leading to muscle weakness affecting mastication, speech, and swallowing, significantly impacting oral health-related quality of life (OHRQoL). This study aims to evaluate the impact of MG on OHRQoL using the OHIP-14 questionnaire, assessing functional limitations, psychological distress, and social impairments. 2. Methods: A cross-sectional study was conducted on 100 MG patients who completed a self-administered OHIP-14 questionnaire while awaiting medical consultations. The OHIP-14 evaluates seven domains, including functional limitation, physical pain, psychological discomfort, and handicap, using a 4-point Likert scale. 3. Results: Results showed that MG significantly affects OHRQoL, with participants frequently reporting speech difficulties (mean score: 2.28 ± 1.11), oral discomfort (1.16 ± 1.07), self-consciousness (1.94 ± 1.42), and eating disruptions (2.18 ± 1.31). Many also experienced social disability, reduced well-being, and functional impairments. 4. Conclusion: These findings highlight the need to integrate oral health assessments into MG management. A multidisciplinary approach involving neurologists, dental specialists, and mental health professionals is essential to improving patient outcomes.

Keywords: Myasthenia gravis, oral health-related quality of life, OHIP-14, neuromuscular impairment

INTRODUCTION

Myasthenia gravis (MG) is a chronic autoimmune neuromuscular disorder characterized by an abnormal immune response, wherein the body's immune system mistakenly generates antibodies against specific membrane proteins at the neuromuscular junction. This immune-mediated disruption impairs the normal transmission of nerve impulses to muscles, resulting in fluctuating muscle weakness and fatigue. The clinical manifestations of MG vary widely, often affecting the ocular muscles, leading to drooping eyelids (ptosis), and causing difficulties in swallowing (dysphagia) and breathing. Additionally, limb muscles, particularly those in the arms and legs, are commonly involved, resulting in generalized muscle weakness that can significantly impact daily activities [1].

Beyond limb and respiratory involvement, MG frequently affects muscles responsible for facial expressions and mastication, leading to functional impairments that influence essential activities such as chewing, swallowing, and speaking (dysarthria). As a consequence of facial muscle weakness, many patients exhibit an expressionless appearance, which can further impact their oral health. Moreover, weakness in the soft palate muscles can lead to a nasal speech tone and restricted lip movement. In severe cases, MG can also extend to the diaphragm and neck extensors, potentially leading to breathing difficulties (dyspnea) [2].

Epidemiological studies indicate that MG affects approximately 140 to 150 individuals per million people worldwide, with an incidence rate ranging between 1.7 and 30 new cases per million annually [3]. The persistent nature of muscle weakness, coupled with the need for long-term treatment, imposes a significant physical and psychological burden on affected individuals. Many patients with MG also suffer from associated mental health conditions, such as anxiety and depression, further emphasizing the necessity of a multidisciplinary approach that addresses both the physical and psychological aspects of the disease [4]. The introduction of immune-based therapies, particularly corticosteroids in the 1970s, has significantly improved MG prognosis, rendering the disease less life-threatening in many cases. However, complete and sustained remission remains rare, with many patients continuing to experience persistent fatigue, functional impairments, and adverse effects associated with long-term immunosuppressive therapies [5]. These ongoing challenges highlight the need for further research and the development of more effective therapeutic strategies.

Beyond its systemic effects, MG has a notable impact on oral health, influencing it both directly—through neuromuscular impairments affecting mastication, swallowing, and speech—and indirectly, through behavioral adaptations due to disease progression and long-term treatment effects. Conversely, changes in oral health can also have broader implications for systemic well-being [6]. Given that oral health is an integral component of general health, maintaining optimal oral function is essential for preserving overall quality of life [7, 8].

Oral Health-Related Quality of Life (OHRQoL) is a well-established concept that reflects the impact of oral health on physical, psychological, and social well-being, influencing essential activities such as eating, speaking, and social engagement (14–16). To assess OHRQoL, various measurement tools have been developed, with the Oral Health Impact Profile (OHIP) being one of the most widely used and validated instruments. The strength of OHIP lies in its ability to measure changes in patients' perceptions of their oral health, bridging the gap left by conventional clinical assessments that often fail to capture the broader psychosocial impact of oral disorders [9].

The OHIP-49 questionnaire, consisting of 49 questions grouped into seven dimensions of OHRQoL, has been extensively validated and is recognized for its reliability, sensitivity to change, and cross-cultural applicability. However, despite its effectiveness, its extensive

length and the time required for completion have posed limitations in both clinical and research settings, reducing its practicality. To address these challenges, a shortened version – OHIP-14 – was introduced. This version retains the core dimensions of the OHIP-49 but condenses the questionnaire to just 14 items, providing a more time-efficient alternative without compromising validity or reliability. The development of OHIP-14 has made it a preferred tool in both research and clinical practice, offering a more practical approach to evaluating the impact of oral health on quality of life [10].

The OHIP-14 questionnaire was selected as the primary tool for assessing the impact of MG on oral health-related quality of life due to its well-established validity, reliability, and sensitivity in capturing patient-reported oral health challenges. Given that MG predominantly affects neuromuscular function, leading to impairments in mastication, swallowing, and speech [11], a patient-centered measure such as OHIP-14 is essential for understanding the broader implications of these dysfunctions. Unlike conventional clinical assessments that primarily evaluate physiological symptoms, the OHIP-14 provides a comprehensive evaluation of how oral health issues influence physical, psychological, and social well-being [12]. Its ability to measure subjective experiences related to oral function aligns with the study's objective of assessing the real-world impact of MG-related neuromuscular impairments on quality of life. Additionally, the OHIP-14's brevity and ease of administration make it a practical tool for individuals with MG, who may experience fatigue and difficulty completing lengthy surveys, ensuring reliable and meaningful data collection.

Given the interplay between systemic diseases such as MG and oral health, it is crucial to assess how oral impairments influence the overall well-being of affected individuals. Understanding these relationships can lead to better multidisciplinary management strategies, ensuring that oral health considerations are integrated into the broader treatment framework for MG patients.

Aim and objectives

This study aims to evaluate the impact of myasthenia gravis (MG) on oral health-related quality of life using the OHIP-14 questionnaire. It examines how neuromuscular impairments affect mastication, speech, and swallowing, along with their psychological and social consequences. The objective is to highlight the need for integrating oral health assessments into MG care and to support multidisciplinary strategies for improving patient well-being.

MATERIAL AND METHODS

A structured and detailed information sheet outlining the objectives, methodology, and potential implications of the study was provided to all prospective participants. This document also addressed any concerns or questions they had to ensure transparency and allow for an informed decision regarding their participation. The study was conducted on a voluntary basis, and only individuals who met the inclusion criteria were invited to participate. Those who agreed to take part in the research were required to provide written informed consent before proceeding. Following the consent process, participants were given a self-administered questionnaire designed to assess oral health-related quality of life, which they were asked to complete while waiting for their scheduled medical appointment. To minimize any inconvenience, the estimated time for completion of the questionnaire was approximately 5 to 8 minutes, ensuring that it did not interfere with their clinical consultation.

This study is a cross-sectional observational study designed to evaluate the impact of myasthenia gravis (MG) on oral health-related quality of life (OHRQoL) using the OHIP-14 questionnaire.

To maintain the validity and reliability of the collected data, all completed questionnaires were carefully reviewed to verify that they met the inclusion criteria. A total of 110 questionnaires were initially distributed; however, only 100 were deemed eligible for inclusion in the final analysis. The remaining 10 questionnaires were excluded due to missing or incomplete responses or failure to satisfy the predefined inclusion criteria. The exclusion of these incomplete responses helped ensure the integrity of the dataset, allowing for more accurate and meaningful conclusions regarding the impact of myasthenia gravis (MG) on oral health and quality of life.

Individuals aged 18 years or older with a confirmed diagnosis of MG were considered eligible to participate in the study. Additionally, participants were required to have the cognitive ability to provide informed consent and actively engage in the research process. The selection criteria were designed to ensure that all included participants had a clear understanding of the study's objectives and were capable of accurately completing the questionnaire.

Exclusion criteria were established to maintain methodological rigor and ensure that the study population was homogenous. Individuals diagnosed with other severe neuromuscular disorders that could potentially interfere with the assessment of MG-specific symptoms were excluded from participation. Moreover, individuals with cognitive impairments or psychiatric conditions that hindered their ability to provide informed consent were not included in the study. Individuals diagnosed with other severe neuromuscular disorders were excluded to ensure that the symptoms assessed were specifically attributable to myasthenia gravis (MG) and not confounded by overlapping neuromuscular dysfunctions. This methodological approach aimed to enhance the accuracy of the findings by reducing variability in the study population and ensuring that the observed impact on oral health-related quality of life (OHRQoL) was directly associated with MG. Additional exclusion criteria included significant barriers to completing the questionnaire, such as illiteracy, language difficulties, or severe motor dysfunction that impaired the ability to respond to survey items. The implementation of these inclusion and exclusion criteria was essential to reducing variability in the study population and ensuring a reliable analysis of the effects of MG on oral health and quality of life.

All participants voluntarily provided written informed consent before enrolling in the study, and none of the respondents were involved in the study's design or methodological development. The research was conducted following the ethical principles established by the Declaration of Helsinki and received official approval from the Ethics Committee of the University of Medicine and Pharmacy "Victor Babeș," Timișoara (Approval No. 07/11.04.2024).

The assessment of Oral Health-Related Quality of Life (OHRQoL) was carried out using the Romanian-adapted version of the 14-item Oral Health Impact Profile (OHIP-14)[13]. This instrument is widely recognized as a validated and reliable tool for evaluating the impact of oral health on overall well-being. The OHIP-14 measures oral health-related quality of life across seven distinct domains: Functional Limitation (difficulties in pronunciation and alterations in taste perception), Physical Pain (oral discomfort and pain while eating), Psychological Discomfort (tension and self-consciousness caused by oral health concerns), Physical Disability (dissatisfaction with diet and disruptions in eating habits), Psychological Disability (embarrassment and difficulty in relaxation), Social Disability (irritability and challenges in daily activities), and Handicap (reduced overall well-being and functional limitations due to oral health issues).

Participants completed the OHIP-14 questionnaire by responding to items on a 4-point Likert scale, where "very often" was assigned a score of 4, "often" a score of 3, "sometimes" a score of 2, "rarely" a score of 1, and "never" a score of 0. The total OHIP-14 score ranged from 0 to 56, with lower scores indicating a higher OHRQoL [14,15]. This scoring system allowed for a standardized evaluation of how oral health-related factors affected various aspects of the participants' lives, providing valuable insights into the challenges faced by individuals with MG in maintaining oral health and overall well-being.

By employing a validated assessment tool and adhering to strict inclusion and exclusion criteria, this study aimed to provide a rigorous evaluation of the relationship between MG and oral health-related quality of life. The methodological approach ensured that the findings were both reliable and generalizable, contributing to a better understanding of the specific challenges faced by individuals with MG and supporting the development of targeted interventions to improve their oral and overall health.

Statistical analysis was performed using SPSS version 24.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics, including mean values and standard deviations, were calculated for each whitening product at different time points.

RESULTS

The results of the OHIP-14 questionnaire provide a comprehensive perspective on the impact of oral health on various aspects of participants' daily lives, particularly in the domains of functional limitation, physical pain, psychological discomfort, physical disability, social disability, and handicap. The findings reveal substantial variability in how individuals perceive and experience oral health-related challenges, with some reporting minimal interference, while others encounter persistent difficulties that significantly affect their well-being and daily activities.

Within the functional limitation domain, the extent to which oral health affected speech and taste perception was evaluated. The mean score for pronunciation difficulties was 2.28 (SD = 1.11), suggesting a moderate level of impairment among participants. The distribution of responses showed that 7% of individuals never experienced speech difficulties, while 17% reported them very rarely and 30% occasionally. A substantial proportion of respondents (33%) reported experiencing pronunciation problems fairly often, while 13% indicated that these issues occurred very often. These results indicate that while speech impairments were not universally reported, a considerable percentage of participants encountered them frequently, potentially affecting communication and social confidence.

In contrast, taste disturbances were less prevalent, with a mean score of 0.89 (SD = 1.09). More than half of the participants (51%) never experienced taste alterations, while 20% reported them very rarely and 21% occasionally. Only a small fraction of respondents encountered more frequent occurrences, with 5% experiencing taste disturbances fairly often and 3% very often. These findings suggest that although taste disturbances were less frequently reported than speech difficulties, they remained relevant to a subset of participants and could influence dietary choices and overall eating experiences.

The physical pain domain assessed oral discomfort and pain experienced while eating. The mean score for general oral discomfort was 1.16 (SD = 1.07), indicating that most participants experienced minimal pain. Among respondents, 34% never reported discomfort, 30% experienced it very rarely, and 24% occasionally. A smaller proportion reported more frequent discomfort, with 10% indicating it occurred fairly often and 2% reporting very frequent episodes.

For pain while eating, the mean score was slightly higher at 1.33 (SD = 1.18), suggesting a somewhat greater impact compared to general oral discomfort. The response

distribution revealed that 31% never experienced pain while eating, 27% reported it very rarely, and 26% occasionally. A minority of participants (10%) indicated experiencing pain while eating fairly often, while 6% reported it very often. These results suggest that while oral pain and discomfort were not dominant concerns, they were still present for some individuals, with potential consequences for dietary habits and overall oral function.

The psychological discomfort domain explored the emotional impact of oral health, focusing on self-consciousness, guilt, and tension related to oral conditions. The mean score for self-consciousness was 1.44 (SD = 1.39), indicating that while it was not a widespread issue, some participants experienced moderate emotional distress. The response distribution showed that 36% of individuals never felt self-conscious, 19% experienced it very rarely, and 23% occasionally. A smaller subset of participants (9%) felt self-conscious fairly often, while 13% experienced this issue very often. (Table 1, Figure 1)

Table 1. Distribution of Responses for the OHIP-14 Domains in Patients with Myasthenia Gravis

		Never N(%)	Rarely N(%)	Sometimes N(%)	Often N(%)	Very often N(%)	Mean	Std. Deviation
Functional Limitation	Item 1	7%	17%	30%	33%	13%	2.28	1.11
	Item 2	51%	20%	21%	5%	3%	0.89	1.09
Physical Pain	Item 3	34%	30%	24%	10%	2%	1.16	1.07
	Item 4	31%	27%	26%	10%	6%	1.33	1.18
Psychological Discomfort	Item 5	36%	19%	23%	9%	13%	1.44	1.39
	Item 6	59%	13%	19%	3%	6%	0.84	1.19
Physical Disability	Item 7	40%	20%	14%	16%	10%	1.36	1.40
	Item 8	21%	20%	24%	14%	21%	1.94	1.42
Psychological Disability	Item 9	40%	19%	19%	9%	13%	1.36	1.41
	Item 10	13%	17%	31%	17%	22%	2.18	1.31
Social Disability	Item 11	28%	20%	18%	20%	14%	1.72	1.41
	Item 12	15%	15%	31%	17%	22%	2.16	1.33
Handicap domain	Item 13	44%	18%	18%	7%	13%	1.27	1.41
	Item 14	52%	24%	9%	10%	5%	0.92	1.21

In terms of guilt related to oral health problems, the mean score was 0.84 (SD = 1.19), suggesting that this concern was less frequently reported than self-consciousness. The majority of participants (59%) never experienced guilt, while 13% reported it very rarely and 19% occasionally. Only a small fraction of respondents reported frequent feelings of guilt, with 3% experiencing it fairly often and 6% very often.

Additionally, tension related to oral health was evaluated separately, with a mean score of 1.36 (SD = 1.40). The results indicated that while some individuals experienced mild to moderate distress, it was not a dominant issue. A total of 40% of respondents never reported tension, 20% experienced it very rarely, and 14% occasionally, while 16% stated they felt tension fairly often, and 10% very often.

The mean score for self-consciousness due to oral health concerns was higher at 1.94 (SD = 1.42), indicating that this concern was more prevalent than tension. The response distribution showed that 21% of participants never felt self-conscious, 20% reported experiencing it very rarely, and 24% occasionally. A considerable proportion of respondents (14% and 21%) reported experiencing self-consciousness fairly often and very often, respectively.

The physical disability domain assessed the extent to which oral health contributed to diet dissatisfaction and disruptions in eating habits. The mean score for diet dissatisfaction was 1.36 (SD = 1.41), suggesting that while not widespread, a subset of participants experienced moderate concerns. Among respondents, 40% never felt dissatisfied with their diet, 19% reported this very rarely, and another 19% occasionally. A smaller group

experienced dissatisfaction more frequently, with 9% feeling it fairly often and 13% very often.

For disruptions in eating habits, the mean score was 2.18 (SD = 1.31), indicating that this issue was more prevalent than diet dissatisfaction. The response distribution showed that 13% never experienced disruptions, 17% reported them very rarely, and 31% occasionally. Meanwhile, 17% of participants experienced these disruptions fairly often, and 22% very often.

The social disability domain examined how oral health influenced irritability and challenges in daily activities. The mean score for irritability was 1.72 (SD = 1.41), suggesting that while many participants did not frequently experience this issue, a notable proportion still did. Among respondents, 28% never felt irritable, 20% reported experiencing it very rarely, and 18% occasionally. Meanwhile, 20% of participants reported feeling irritable fairly often, and 14% very often.

The assessment of difficulty in daily activities revealed a mean score of 2.16 (SD = 1.33), suggesting that this issue was more frequently reported compared to irritability. The distribution of responses indicated that 15% of participants never experienced difficulties, while 15% reported them very rarely and 31% occasionally. A notable proportion of respondents experienced more frequent disruptions in daily activities, with 17% reporting difficulties fairly often and 22% very often. These findings highlight that challenges in performing routine tasks were a significant concern for a substantial subset of participants, potentially impacting their overall quality of life and social functioning.

The handicap domain assessed the impact of oral health on overall well-being and functional limitations. The mean score for reduced well-being was 1.27 (SD = 1.41), indicating moderate distress among some participants. The response distribution showed that 44% of participants never reported a reduction in well-being, while 18% experienced it very rarely and another 18% occasionally. A smaller proportion reported more frequent well-being concerns, with 7% experiencing them fairly often and 13% very often. These findings suggest that while the majority of participants did not perceive a significant reduction in well-being due to oral health issues, a notable minority experienced moderate to frequent distress.

For functional impairments related to oral health, the mean score was 0.92 (SD = 1.21), suggesting that this issue was reported less frequently than well-being concerns. Among respondents, 52% never experienced functional limitations, 24% reported them very rarely, and 9% occasionally. Meanwhile, 10% faced functional difficulties fairly often, and 5% very often. These findings indicate that while most participants did not perceive significant functional impairments due to oral health issues, a small proportion reported experiencing frequent limitations.

Overall, these findings suggest that while oral health-related issues did not significantly limit daily activities for most participants, they had a substantial impact on psychological well-being, eating habits, and social interactions for certain individuals. These results underscore the importance of addressing oral health not only from a clinical perspective but also in terms of its broader implications for quality of life. (Table 1, Figure 1)

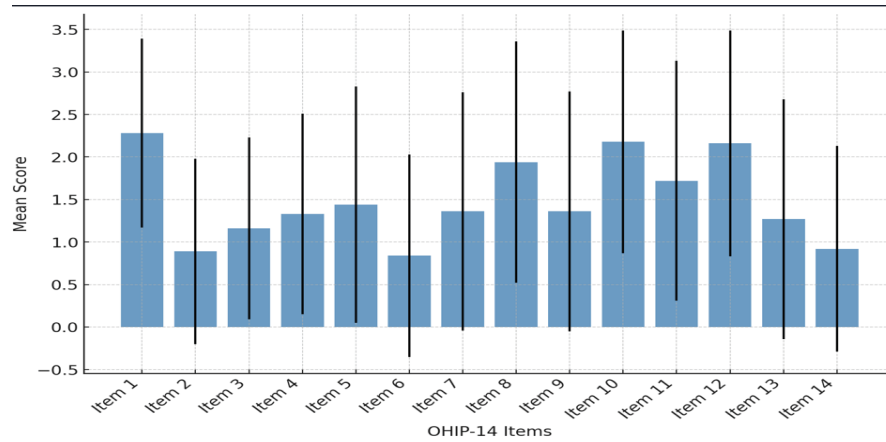


Figure 1. Mean OHIP-14 Scores with Standard Deviations in Patients with Myasthenia Gravis

DISCUSSIONS

The results of this study provide valuable insights into the significant impact of myasthenia gravis (MG) on oral health-related quality of life, emphasizing the interplay between neuromuscular dysfunction and oral impairments. The findings demonstrate that MG-related muscle weakness affects essential oral functions, including mastication, speech, and swallowing, leading to functional limitations, psychological distress, and social impairments. These results are consistent with previous studies evaluating the broader quality of life in MG patients, reinforcing the need for a multidisciplinary approach to disease management. By comparing our findings with existing literature, we further highlight the necessity of integrating oral health assessments into routine MG care, as addressing oral impairments may contribute to overall improvements in patient well-being.

The findings of this study reaffirm the substantial impact of myasthenia gravis (MG) on oral health-related quality of life, highlighting functional limitations, psychological discomfort, and social impairments as key factors influencing daily well-being. Our results align with those of previous studies, including Rodakowska et al. (2014), Szczudlik et al. (2020), and Wu et al. (2023), which have similarly demonstrated the multidimensional burden of MG on patient quality of life. Across different populations, oral impairments extend beyond mechanical difficulties, influencing social interactions, emotional well-being, and overall disease burden.

The comparison with Rodakowska et al. (2014) underscores the reliability of OHIP-14 in assessing OHRQoL and highlights the necessity of rigorous inclusion criteria to ensure data validity [16]. While response fatigue in self-reported questionnaires has been noted in other studies, careful participant selection in our study minimized this risk, ensuring that the data accurately captured the impact of MG on oral health. The alignment between these findings suggests that despite differences in the underlying pathology, oral health remains a critical determinant of overall well-being, further supporting the need for integrated healthcare approaches.

The significant role of disease severity in shaping quality of life outcomes is also evident in our comparison with Szczudlik et al. (2020), who demonstrated that more severe MG symptoms correlate with greater impairment in physical and mental health. While their study employed the SF-36 questionnaire to assess general quality of life, our use of OHIP-14 allowed for a focused evaluation of oral health-related impairments [17]. Both studies underscore the importance of functional limitations, psychological distress, and social impairments as determinants of quality of life, reinforcing the necessity of integrating oral

health assessments into routine MG management. Neuromuscular dysfunctions affecting mastication, speech, and swallowing contribute significantly to the disease burden, necessitating a multidisciplinary approach that considers both systemic and oral health factors.

Additionally, our findings are consistent with those of Wu et al. (2023), who highlighted the profound impact of MG on psychological well-being [18]. Both studies identify self-consciousness and emotional distress as major concerns for MG patients, suggesting that oral health impairments contribute not only to physical difficulties but also to mental health burdens. These results reinforce the importance of psychological support alongside dental and neurological interventions to improve overall quality of life in MG patients.

Given the neuromuscular nature of MG and its direct effects on masticatory and facial muscles, dental professionals should play a more active role in the multidisciplinary care team. Collaboration between neurologists and dental specialists is essential for monitoring and addressing oral health challenges, particularly functional impairments affecting speech, mastication, and swallowing. Regular evaluations by dental professionals can aid in the early detection of oral dysfunction, allowing for timely interventions that prevent further complications. Moreover, since oral health issues in MG patients may extend beyond mechanical difficulties to include pain and discomfort, targeted management strategies should be developed to alleviate these symptoms and improve overall quality of life.

Beyond physical impairments, the psychological implications of oral health disturbances in MG should not be overlooked. Many participants in this study reported varying degrees of self-consciousness, emotional distress, and frustration related to their oral condition. The presence of such psychological burdens suggests that mental health support should be integrated into patient care to ensure that individuals receive appropriate counseling and coping strategies. Speech therapy and dietary counseling may also play an essential role in helping patients adapt to their limitations while maintaining their ability to communicate and eat effectively. Furthermore, tailored dental interventions, including occlusal adjustments, prosthodontic treatments, and specialized oral appliances, may significantly enhance comfort and functionality in affected individuals. The incorporation of these therapeutic strategies into routine care could mitigate the impact of oral health impairments on daily activities and social participation.

Despite the valuable insights provided by this study, several limitations must be acknowledged. The cross-sectional design, while useful for evaluating the prevalence and severity of OHRQoL issues in MG patients, does not allow for causal inferences regarding the progression of oral health deterioration. Longitudinal studies would be more informative in assessing how oral health challenges evolve in response to disease progression, treatment modifications, and rehabilitative interventions. Additionally, while self-reported data provide important patient-centered insights, they may be subject to response bias, with individuals potentially underestimating or overestimating their oral health challenges. Future research should incorporate objective clinical assessments alongside patient-reported outcomes to develop a more comprehensive understanding of the relationship between MG and oral health.

To refine our understanding of this interplay further, future studies should explore interventions specifically tailored to address the unique challenges faced by MG patients. Randomized controlled trials evaluating the efficacy of oral health interventions, such as customized prosthetic solutions, targeted physical therapy for oral musculature, and pharmacological management of oral discomfort, could provide valuable evidence for optimizing patient care. Additionally, investigating the impact of multidisciplinary approaches that integrate dental, neurological, and psychological care may yield novel

strategies for improving the overall well-being of individuals with MG. By addressing these research gaps, healthcare providers can develop more effective, evidence-based interventions that enhance the quality of life of MG patients, ensuring that both systemic and oral health needs are met comprehensively.

CONCLUSIONS

This study highlights the significant impact of myasthenia gravis on oral health-related quality of life (OHRQoL), demonstrating that neuromuscular dysfunctions affecting mastication, speech, and swallowing contribute to functional limitations, psychological distress, and social impairments. The findings underscore the necessity of integrating oral health assessments into routine MG management, as addressing these impairments may improve overall patient well-being. Given the multidimensional burden of MG on oral function, a multidisciplinary approach that incorporates dental, neurological, and psychological care is essential.

Conflicts of Interest

The authors declare no conflict of interest.

REFERENCES

- [1] Dong D, Chong MK chun, Wu Y, Kaminski H, Cutter G, Xu X, et al. Gender differences in quality of life among patients with myasthenia gravis in China. *Health Qual Life Outcomes*. 2020 Dec;18(1):296.
- [2] Gwathmey K, Burns T. Myasthenia Gravis. *Semin Neurol*. 2015 Oct 6;35(04):327–39.
- [3] Donskov AO, Shimada A, Vinge L, Svensson P, Andersen H. Oral function in patients with myasthenia gravis. *PeerJ*. 2021 Jun 29;9:e11680.
- [4] Yang Y, Zhang M, Guo J, Ma S, Fan L, Wang X, et al. Quality of life in 188 patients with myasthenia gravis in China. *International Journal of Neuroscience*. 2016 May 3;126(5):455–62.
- [5] Utsugisawa K, Nagane Y, Uzawa A, Murai H, Imai T, Suzuki S. Health-related quality of life and treatment strategies in myasthenia gravis. *Clinical and Experimental Neuroimmunology*. 2020;11(4):209–17.
- [6] Schwarz C, Hajdu AI, Dumitrescu R, Sava-Rosianu R, Bolchis V, Anusca D, et al. Link between Oral Health, Periodontal Disease, Smoking, and Systemic Diseases in Romanian Patients. *Healthcare*. 2023 Jan;11(16):2354.
- [7] Baniasadi K, Armoon B, Higgs P, Bayat AH, Mohammadi Gharehghani MA, Hemmat M, et al. The Association of Oral Health Status and socio-economic determinants with Oral Health-Related Quality of Life among the elderly: A systematic review and meta-analysis. *International Journal of Dental Hygiene*. 2021;19(2):153–65.
- [8] Karimy M, Higgs P, Abadi SS, Armoon B, Araban M, Rouhani MR, et al. Oral health behavior among school children aged 11–13 years in Saveh, Iran: an evaluation of a theory-driven intervention. *BMC Pediatrics*. 2020 Oct 13;20(1):476.
- [9] Dumitrescu R, Bolchis V, Popescu S, Ivanescu A, Bolos A, Jumanca D, et al. Oral Health and Quality of Life in Type 2 Diabetic Patients: Key Findings from a Romanian Study. *Journal of Clinical Medicine*. 2025 Jan;14(2):400.
- [10] Kovačević I, Barać I, Major Poljak K, Čandrlić S, Čandrlić M. Assessing the Oral-Health-Related Quality of Life in Patients with Dental Prosthetics: A Cross-Sectional Study from Eastern Croatia. *Oral*. 2025 Mar;5(1):10.
- [11] James SL, Abate D, Abate KH, Abay SM, Abbafati C, Abbasi N, et al. Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*. 2018 Nov;392(10159):1789–858.

- [12] Malicka B, Skośkiewicz-Malinowska K, Kaczmarek U. The impact of socioeconomic status, general health and oral health on Health-Related Quality of Life, Oral Health-Related Quality of Life and mental health among Polish older adults. *BMC Geriatr.* 2022 Jan 3;22(1):2.\
- [13] Validation of a Romanian Version of the Short Form of the Oral Health Impact Profile (OHIP-14) for Use in an Urban Adult Population. *Oral Health and Preventive Dentistry.* 2013 Sep 11;11(3):235-42.
- [14] Newb. Likert scale and yes/no calculation of one score [Internet]. Cross Validated. 2014 [cited 2025 Feb 15]. Available from: <https://stats.stackexchange.com/q/45374>
- [15] Stauner N. Answer to “Likert scale and yes/no calculation of one score” [Internet]. Cross Validated. 2014 [cited 2025 Feb 15]. Available from: <https://stats.stackexchange.com/a/82274>
- [16] Rodakowska E, Mierzyńska K, Bagińska J, Jamiołkowski J. Quality of life measured by OHIP-14 and GOHAI in elderly people from Białystok, north-east Poland. *BMC Oral Health.* 2014 Aug 20;14(1):106.
- [17] Szczudlik P, Sobieszczuk E, Szyluk B, Lipowska M, Kubiszewska J, Kostera-Pruszczyk A. Determinants of Quality of Life in Myasthenia Gravis Patients. *Front Neurol.* 2020 Sep 23;11:553626.
- [18] Wu X, Li RY, Ye XB, Wang N. Reduced quality of life in myasthenia gravis patients: A study on 185 patients from China. *Front Neurol.* 2023 Jan 12;13:1072861.