

IMPACT OF LONG-PULSED Nd:YAG (1064 NM) LASER THERAPY ON QUALITY OF LIFE IN PATIENTS WITH MODERATE ACNE VULGARIS

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Moderate acne vulgaris represents one of the most common chronic inflammatory dermatoses affecting adolescents and young adults and remains a significant clinical and psychosocial problem worldwide. Epidemiological evidence indicates that acne is among the leading non-fatal dermatological conditions contributing to reduced quality of life in young populations. Although moderate acne is often considered less severe than nodulocystic forms, it is frequently associated with persistent inflammatory lesions, visible facial involvement, emotional distress, social withdrawal, and decreased self-confidence. The psychosocial burden of acne may exceed objective clinical severity; therefore, comprehensive evaluation of therapeutic effectiveness requires integration of patient-reported outcome measures.

The Dermatology Life Quality Index (DLQI) is a standardized dermatology-specific instrument designed to quantify the subjective burden of skin diseases from the patient's perspective. The questionnaire consists of ten structured items covering domains related to symptoms and feelings, daily activities, leisure, work and school performance, personal relationships, and treatment-related difficulties. Total scores range from 0 to 30, with higher values indicating greater impairment of quality of life. Interpretation of DLQI values allows stratification of psychosocial impact, demonstrating that even moderate acne frequently produces clinically relevant quality-of-life impairment.

In addition to DLQI assessment, patient satisfaction was evaluated using a 10-point visual analogue scale (VAS), where 0 indicated no perceived improvement and 10 represented maximal subjective treatment benefit. The incorporation of VAS enabled complementary evaluation of personal treatment perception alongside standardized quality-of-life measurement.

Within the framework of the present clinical trial, a subgroup analysis was performed to evaluate quality-of-life outcomes using the DLQI in patients receiving long-pulsed Nd:YAG (1064 nm) laser therapy compared with standard medical treatment.

A prospective randomized controlled clinical study was conducted at Sumy State University. Eighty adult patients aged 18–40 years with clinically confirmed moderate acne vulgaris were enrolled and randomly assigned into two groups of 40 patients each.

Diagnosis and severity grading were established using standardized dermatological examination and the Global Acne Grading System. The first group received long-pulsed Nd:YAG 1064 nm laser therapy administered every two weeks for six sessions with gradual parameter adjustment and continuous safety monitoring. The second group received guideline-based standard topical medical therapy appropriate for moderate acne. Baseline demographic and clinical characteristics were recorded prior to treatment initiation.

Quality of life was evaluated using DLQI at baseline and after 12 weeks of therapy. Patient satisfaction was simultaneously documented using VAS scoring. Statistical analysis was performed with significance level set at $p < 0.05$.

At baseline, both groups demonstrated comparable demographic and clinical characteristics without statistically significant differences in severity or DLQI scores, indicating moderate impairment of quality of life. After 12 weeks of treatment, patients in the Nd:YAG group demonstrated a statistically significant reduction in DLQI scores compared with baseline and compared with the standard therapy group. Improvement was observed across domains including symptoms and feelings, daily activities, and social functioning.

VAS assessment revealed higher subjective satisfaction scores among patients treated with long-pulsed Nd:YAG therapy compared with those receiving standard treatment, reflecting greater perceived therapeutic benefit. Correlation analysis indicated a positive association between clinical improvement, DLQI reduction, and VAS satisfaction scores, suggesting consistency between objective outcomes and patient perception.

Treatment with long-pulsed Nd:YAG was associated with minimal transient local reactions, including temporary erythema and mild warmth sensation. These effects resolved without intervention. No systemic complications or treatment discontinuations were reported.

The findings confirm that moderate acne vulgaris significantly affects quality of life and that long-pulsed Nd:YAG 1064 nm laser therapy provides not only clinical improvement but also meaningful psychosocial benefits and higher patient satisfaction. Integration of DLQI and VAS assessment enhances patient-centered evaluation of treatment outcomes and supports a multidimensional approach to acne management. Nd:YAG laser therapy represents a safe and effective non-systemic therapeutic option for patients with moderate acne vulgaris.

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ЕФЕКТИВНІСТЬ ПРОГРАМИ ФІЗИЧНОЇ ТЕРАПІЇ У ДІТЕЙ ДОШКІЛЬНОГО ВІКУ ІЗ СИНДРОМОМ ДАУНА

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Синдром Дауна (трисомія 21 хромосоми) є найпоширенішою генетичною аномалією у світі: за даними Всесвітньої організації охорони здоров'я, частота його виникнення становить від 1 на 1000 до 1 на 1100 новонароджених [1;3]. В Україні щороку народжується понад 400 дітей із цим синдромом, що підкреслює високу соціальну значущість проблеми та потребу в ефективних реабілітаційних стратегіях на державному рівні .

Особливістю функціонального стану дітей із синдромом Дауна є системний характер порушень, що охоплює опорно-руховий апарат, серцево-судинну та дихальну системи [2]. Поєднання генералізованої м'язової гіпотонії та надмірної мобільності суглобів створює специфічні перешкоди для формування стабільності тіла та опанування базових рухових навичок [5].