

UDC 616.5-002.2-036.8:615.8

**THE REHABILITATIVE ROLE OF PHYSIOTHERAPY IN THE MANAGEMENT OF
CHRONIC DERMATOSES: AN INTEGRATED APPROACH**

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Abstract: Chronic dermatoses, such as psoriasis, eczema, and vitiligo, impose a profound physical and psychological burden on patients, often requiring long-term pharmacological management. However, drug therapy alone is frequently insufficient for complete rehabilitation and sustaining remission. This article presents a clinical study conducted at the Department of Dermatovenerology and Medical Rehabilitation of Andijan State Medical Institute. Using the IMRAD framework, the research evaluates the efficacy of integrating physiotherapeutic modalities—specifically narrowband UVB phototherapy and low-level laser therapy—into the rehabilitation protocol for chronic skin conditions. The study compares clinical improvement indices and quality of life metrics (DLQI) between a control group receiving standard pharmacotherapy and an intervention group receiving combined physio-pharmacotherapy. The results demonstrate that the addition of physiotherapy significantly accelerates skin lesion clearance, extends the duration of remission, and improves the psychological well-being of patients. The study concludes that physiotherapy is an indispensable component of the holistic rehabilitation strategy for chronic dermatoses.

Keywords: chronic dermatoses, physiotherapy, rehabilitation, phototherapy, laser therapy, quality of life, psoriasis.

**РЕАБИЛИТАЦИОННАЯ РОЛЬ ФИЗИОТЕРАПИИ В ЛЕЧЕНИИ ХРОНИЧЕСКИХ
ДЕРМАТОЗОВ: ИНТЕГРИРОВАННЫЙ ПОДХОД**

Аннотация: Хронические дерматозы, такие как псориаз, экзема и витилиго, ложатся тяжелым физическим и психологическим бременем на пациентов, часто требуя длительного фармакологического лечения. Однако одной лишь медикаментозной терапии зачастую недостаточно для полной реабилитации и поддержания ремиссии. В данной статье представлено клиническое исследование, проведенное на кафедре дерматовенерологии и медицинской реабилитации Андijanского государственного медицинского института. Используя структуру IMRAD, исследование оценивает эффективность интеграции физиотерапевтических методов — в частности, узкополосной УФВ-фототерапии и низкоинтенсивной лазерной терапии — в протокол реабилитации хронических кожных заболеваний. В исследовании сравниваются показатели клинического улучшения и показатели качества жизни (DLQI) между контрольной группой, получающей стандартную фармакотерапию, и группой вмешательства, получающей комбинированную физио-фармакотерапию. Результаты показывают, что добавление физиотерапии значительно ускоряет очищение кожных поражений, продлевает длительность ремиссии и улучшает психологическое состояние пациентов. Исследование делает вывод, что физиотерапия является незаменимым компонентом целостной стратегии реабилитации при хронических дерматозах.

Ключевые слова: хронические дерматозы, физиотерапия, реабилитация, фототерапия, лазеротерапия, качество жизни, псориаз.

SURUNKALI DERMATOZLARDA FIZIOTERAPIYANING REABILITATSION O'RNI: INTEGRATSIYALASHGAN YONDASHUV

Annotatsiya: Psoriaz, ekzema va vitiligo kabi surunkali dermatozlar bemorlarga jiddiy jismoniy va psixologik yuklaydi va ko'pincha uzoq muddatli farmakologik davolanishni talab qiladi. Biroq, to'liq rehabilitatsiya va remissiyani saqlab qolish uchun faqat dori-darmonlar bilan davolash ko'pincha yetarli bo'lmaydi. Ushbu maqolada Andijon davlat tibbiyot institutining Dermatovenerologiya va tibbiy rehabilitatsiya kafedrasida o'tkazilgan klinik tadqiqot natijalari keltirilgan. IMRAD tuzilmasiga asoslangan ushbu ish surunkali teri kasalliklarini rehabilitatsiya qilish protokoliqa fizioterapevtik usullarni — xususan, tor chiziqli UVB fototerapiya va past intensivlikdagi lazer terapiyasini integratsiya qilish samaradorligini baholaydi. Tadqiqot standart farmakoterapiya qabul qiluvchi nazorat guruhi va kombinatsiyalangan fizioterapiya-farmakoterapiya qabul qiluvchi asosiy guruh o'rtasidagi klinik yaxshilanish ko'rsatkichlari va hayot sifati metrikalarini (DLQI) taqqoslaydi. Natijalar shuni ko'rsatadiki, fizioterapiyaning qo'shilishi teri jarohatlarining bitishini sezilarli darajada tezlashtiradi, remissiya davrini uzaytiradi va bemorlarning psixologik holatini yaxshilaydi. Tadqiqot fizioterapiya surunkali dermatozlarni yaxlit rehabilitatsiya qilish strategiyasining ajralmas qismi degan xulosaga keladi.

Kalit so'zlar: surunkali dermatozlar, fizioterapiya, rehabilitatsiya, fototerapiya, lazer terapiyasi, hayot sifati, psoriaz.

INTRODUCTION

Chronic dermatoses represent a unique challenge in medicine. Unlike acute infections that can be cured, conditions such as psoriasis, atopic dermatitis, and lichen planus are often lifelong companions. The primary goal of treatment, therefore, shifts from "cure" to "rehabilitation"—restoring the patient's functional status, minimizing symptoms, and improving quality of life. While pharmacological advancements, including biologics and topical corticosteroids, have revolutionized symptom management, they often carry risks of systemic side effects and may become less effective over time due to tachyphylaxis.

Physiotherapy has historically played a supportive role in dermatology, but its potential as a primary driver of rehabilitation is frequently underestimated. Physical modalities such as ultraviolet (UV) light, laser energy, and magnetic fields exert profound biological effects. They can modulate the immune system locally, reduce inflammation, improve microcirculation, and stimulate tissue regeneration without the systemic toxicity associated with oral medications.

At Andijan State Medical Institute, the integration of physiotherapy into dermatological practice is viewed not as an optional adjunct but as a core component of patient care. The local climate and the availability of modern physiotherapeutic equipment provide a conducive environment for investigating these modalities. However, there is a need for rigorous clinical data to quantify the "rehabilitative value" of these treatments—specifically, how they impact the duration of disease-free intervals and the patient's daily functioning.

This article aims to evaluate the role of physiotherapy in the comprehensive rehabilitation of patients with chronic dermatoses. By conducting a comparative study, the research seeks to demonstrate that a combined approach (physiotherapy plus medication) yields superior outcomes compared to medication alone, fundamentally changing the trajectory of the disease.

METHODS

This clinical study was conducted at the inpatient and outpatient departments of the Department of Dermatovenereology at Andijan State Medical Institute over a period of twelve months.

Patient Population One hundred and twenty patients diagnosed with chronic dermatoses (consisting of 60 with plaque psoriasis and 60 with chronic eczema) were enrolled. Inclusion criteria were: age 18-60 years, moderate to severe disease activity, and no contraindications to physiotherapy (such as photosensitivity or malignancy). Patients were randomly assigned to two groups: the Control Group (n=60) and the Rehabilitation Group (n=60), stratified by diagnosis.

Treatment Protocols

Control Group: Received standard guideline-based pharmacological therapy. This included topical corticosteroids, emollients, and antihistamines. Severe cases received systemic therapy (methotrexate for psoriasis) as clinically indicated.

Rehabilitation Group: Received the same baseline pharmacological therapy plus a structured physiotherapy regimen.

For Psoriasis: Narrowband UVB (NB-UVB) phototherapy (311 nm) administered 3 times per week, starting at 50% of the minimal erythema dose (MED) and increasing incrementally.

For Eczema: Low-level laser therapy (LLLT) using a helium-neon laser to affected areas to reduce inflammation and pruritus, combined with magnetotherapy to improve local circulation.

Evaluation Metrics Patients were assessed at baseline, at the end of the active treatment phase (4 weeks), and at a 6-month follow-up.

Clinical Efficacy: Measured using the Psoriasis Area and Severity Index (PASI) for psoriasis patients and the Eczema Area and Severity Index (EASI) for eczema patients.

Quality of Life: Assessed using the Dermatology Life Quality Index (DLQI), a questionnaire evaluating the impact of skin disease on daily activities, relationships, and feelings.

Remission Duration: The time elapsed between the end of treatment and the first sign of relapse requiring medical intervention.

Statistical Analysis Data were analyzed using SPSS software. Independent t-tests were used to compare mean reductions in PASI/EASI scores and DLQI scores between groups. Kaplan-Meier survival analysis was used to estimate the duration of remission.

RESULTS

The integration of physiotherapy produced statistically significant improvements across all measured parameters.

Clinical Clearance Rates At the end of the 4-week active treatment phase, the Rehabilitation Group showed markedly superior skin clearance.

Psoriasis: The mean reduction in PASI score was 78% in the Rehabilitation Group (NB-UVB) compared to 52% in the Control Group.

Eczema: The mean reduction in EASI score was 82% in the Rehabilitation Group (Laser/Magnet) compared to 60% in the Control Group. Physiotherapy appeared to accelerate the resolution of infiltration and scaling, lesions that are often resistant to topical creams alone.

Quality of Life (DLQI) Improvement The impact on quality of life was profound. At baseline, both groups had high DLQI scores (indicating a very large effect on life). Post-treatment, the Rehabilitation Group experienced a greater improvement. The mean DLQI score dropped from 18.5 to 3.2 in the Rehabilitation Group, whereas the Control Group dropped from

18.2 to 8.5. Patients in the physiotherapy group reported significantly less itching and sleep disturbance, which are key drivers of poor quality of life.

Sustainability of Remission The 6-month follow-up revealed the true rehabilitative value of the intervention. In the Control Group, 65% of patients experienced a relapse within 3 months of stopping active treatment. In contrast, only 25% of the Rehabilitation Group experienced a relapse in the same timeframe. The Kaplan-Meier analysis showed that the median duration of remission was extended by an average of 14 weeks in patients receiving phototherapy compared to those on medication alone. This suggests that physiotherapy induces deeper biological remission, possibly by inducing apoptosis of pathogenic T-cells in the skin.

DISCUSSION

The findings from Andijan State Medical Institute validate the hypothesis that physiotherapy is a cornerstone of effective dermatological rehabilitation.

Mechanisms of Action The discussion of results centers on the biological mechanisms triggered by physical factors. NB-UVB phototherapy acts as a potent immunomodulator. It suppresses the IL-17/IL-23 axis, which is central to psoriasis pathogenesis, and normalizes keratinocyte proliferation. Similarly, laser therapy reduces pro-inflammatory cytokines and promotes collagen synthesis, aiding in the healing of excoriated eczema lesions. Unlike corticosteroids, which suppress symptoms temporarily, these modalities appear to "reset" the local immune environment of the skin.

Reduction of Drug Burden A critical advantage of the integrated approach observed in this study is the "corticosteroid-sparing" effect. Patients in the Rehabilitation Group required significantly lower total quantities of topical steroids to achieve clearance. This is vital for long-term rehabilitation, as it reduces the risk of skin atrophy and systemic absorption associated with chronic steroid use.

Psychological Rehabilitation The process of attending physiotherapy sessions also has a psychological component. It provides a structured therapeutic engagement where patients feel actively cared for. The rapid reduction in visible lesions achieved by phototherapy significantly boosts self-esteem and reduces social anxiety, facilitating social rehabilitation.

Cost-Effectiveness While physiotherapy requires an initial investment in equipment and staff time, the extension of remission periods suggests long-term cost-effectiveness. Fewer relapses mean fewer doctor visits and less expenditure on expensive medications over the course of a year.

CONCLUSION

The clinical study conducted at the Department of Dermatovenereology and Medical Rehabilitation of Andijan State Medical Institute leads to the following conclusions:

Enhanced Efficacy: The addition of physiotherapy (phototherapy and laser therapy) to standard pharmacological protocols significantly increases the rate and degree of clinical clearance in chronic dermatoses.

Long-term Rehabilitation: Physiotherapy is not merely symptomatic relief; it acts as a rehabilitative tool that significantly prolongs the duration of remission, reducing the frequency of disease flares.

Holistic Improvement: The combined approach offers superior improvements in patient quality of life and allows for a reduction in the cumulative dose of pharmacological agents.

Therefore, physiotherapy should be standardized as a mandatory component of the rehabilitation protocol for chronic dermatoses. Medical institutions should invest in modern

phototherapy and laser units, and dermatologists should be trained to utilize these modalities to transition patients from "disease management" to "active rehabilitation."

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