

## Elimination diets in the management of skin diseases (psoriasis, eczema, rosacea)

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World Journal of Advanced Research and Reviews, 2025, 27(01), 2811–2816

Publication history: Received on 11 June 2025; revised on 19 July 2025; accepted on 21 July 2025

Article DOI: <https://doi.org/10.30574/wjarr.2025.27.1.2720>

### Abstract

Chronic inflammatory dermatoses — in particular psoriasis, eczema and rosacea — are widespread in the population and exert a negative impact on the physical and psycho-emotional status of patients. Despite the proven clinical efficacy of conventional therapeutic approaches, their use is often accompanied by adverse side-effects and does not always ensure long-term remission. The aim of this study is to systematise current data on the influence of elimination diets on the course of the aforementioned dermatoses and to present an integrated nutritional approach that targets not only the exclusion of dietary triggers but also the correction of associated metabolic dysfunctions. The methodology comprised an analysis of publications from recent years as well as a synthesis of clinical observations obtained within the authors' nutritional support programmes. The results demonstrate that individually tailored elimination diets, implemented as part of a comprehensive metabolic management programme — including normalisation of glycaemic control, support of hepatic detoxification processes and attenuation of systemic inflammation — lead to improved clinical outcomes, reduced pharmacological burden and enhanced quality of life of patients. The study highlights the role of the gut–skin axis and the contribution of comorbid conditions such as metabolic syndrome to the pathogenetic mechanisms of dermatoses. The information presented in this article will be useful to practising dermatologists, nutritionists, dietitians and integrative medicine specialists.

**Keywords:** Elimination Diet; Psoriasis; Eczema; Rosacea; Gut–Skin Axis; Nutritional Science; Metabolic Syndrome; Systemic Inflammation; Personalised Nutrition; Functional Medicine.

### 1. Introduction

Chronic inflammatory dermatoses—psoriasis, atopic dermatitis (eczema) and rosacea—constitute a pressing issue in global medicine, affecting substantial patient populations [1]. Psoriasis occurs in approximately 2–3 % of the world's inhabitants [2]. These pathologies manifest not only pronounced dermatological symptoms but are also characterized by a generalized inflammatory milieu associated with an elevated risk of metabolic syndrome, cardiovascular disease and gastrointestinal dysfunction [3].

The need to develop new and to improve existing therapeutic approaches is determined by the chronic and relapsing course of these dermatoses and by the marked reduction in patients' quality of life. Traditional treatment regimens, based on the use of topical and systemic agents, demonstrate clinical efficacy but are often accompanied by adverse effects and do not fully address the pathogenetic mechanisms underlying the inflammatory process.

In recent years, scientific inquiry has shifted toward nutraceutical strategies, and in particular elimination diets, as an adjunctive component of managing patients with skin diseases. Contemporary studies confirm the existence of the gut–skin axis, whereby intestinal microbiota dysbiosis and increased mucosal permeability facilitate the translocation of bacterial metabolites and pro-inflammatory cytokines into the systemic circulation, which in turn initiates or aggravates

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cutaneous inflammatory reactions [4]. On this basis, the hypothesis has been advanced that the exclusion of certain dietary triggers can modulate the immune response and attenuate the clinical manifestations of dermatoses.

However, despite accumulating evidence of the beneficial impact of dietary interventions, the systematic nature and standardization of such approaches remain insufficiently developed. Most studies are limited to the removal of one or two components (gluten, lactose), whereas comprehensive programmes that take into account the patient's individual biochemical parameters, metabolic status and comorbidities require more detailed analysis and elaboration.

**The aim** of the study is to systematize current data on the influence of elimination diets on the course of the above-mentioned dermatoses and to present an integrated nutritional approach directed not only at the exclusion of dietary triggers but also at the correction of associated metabolic dysfunctions.

**The author's hypothesis** is that the comprehensive application of elimination diets within personalized programmes that include correction of insulin resistance, normalization of hepatic metabolism and suppression of chronic systemic inflammation enhances therapeutic efficacy compared with mono-elimination of dietary triggers.

**The scientific novelty** lies in the development and systematization of a multicomponent nutritional protocol aimed not only at eliminating provoking factors but also at restoring key metabolic functions. The establishment of such an evidence-based dietary foundation will expand the clinical arsenal of dermatologists and nutritionists, ensuring more effective control of cutaneous symptoms and reduction of the risks of associated systemic complications, thereby ultimately increasing overall therapeutic effectiveness.

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## 2. Materials and Methods

In contemporary studies on elimination diets in the therapy of skin diseases, several thematic blocks can be distinguished, reflecting epidemiological aspects, pathogenetic mechanisms, generalized reviews of dietary strategies, specialized dietary protocols, and auxiliary (non-dietary) approaches.

The first block is devoted to the assessment of disease burden and prevalence. Weidinger S. et al. [1] investigated the severity of atopic dermatitis in paediatric patients in 16 countries, revealing a high disabling load and frequent accompanying allergies, which highlights the need to identify food triggers in children with AD. The epidemiology of psoriasis is described in detail by Kubanov A. A., Bogdanova E. V. [2], who report a steady increase in incidence and pronounced polymorphism of clinical forms, which justifies the search for nutritional modifications capable of reducing the severity and frequency of exacerbations.

The second block combines works devoted to pathogenetic links between the gut and the skin and to the metabolic component. Thye A. Y. K. et al. [5] presented a review of the mechanisms by which gastrointestinal microbiota influence inflammation in psoriasis, emphasising the role of SCFA and modulation of the immune response through eradication of pathobionts when food allergens are eliminated. Chen M., Wang R., Wang T. [12] demonstrate how gut dysbiosis contributes to reduced skin barrier function in AD and psoriasis, which forms the basis for diet therapy with probiotics and prebiotics. Frasier K. [4] introduces the gut–skin–heart perspective, linking changes in skin microbiota with cardiovascular risks and emphasising the potential of diets aimed at normalising the microbiome for multisystem benefit. Hao Y. et al. [3] indicate the relationship between metabolic syndrome and psoriasis, revealing common mechanisms of oxidative stress and chronic low-grade inflammation, which justifies the use of low-carbohydrate elimination protocols in patients with obesity and metabolic syndrome.

The third block comprises generalized reviews of the role of nutrition in the management of psoriasis. Hawkins P. et al. [6], in their review, summarise data on the most frequently used diets (gluten-, dairy-, nightshade-free), pointing to the inconsistency of results and the need for standardised RCTs. Duchnik E. et al. [7] also highlight the lack of high-quality studies, describing the favourable influence of the Mediterranean and anti-inflammatory diets along with moderate physical activity. Controne I. et al. [10] consider not only diet but also sleep disturbance as a co-factor of enhanced inflammation in psoriasis, which expands the sphere of elimination recommendations to comprehensive lifestyle measures.

The fourth block focuses on specific dietary protocols. Barrea L. et al. [9] present a practical guide to the very-low-calorie ketogenic diet (VLCKD) in patients with psoriasis and obesity, detailing the stages of standardising the protein-to-fat ratio and monitoring metabolic markers. Guertler A. et al. [8], in a controlled study, analyse the eating habits of patients with acne and rosacea, identifying a correlation of exacerbations with the intake of dairy products, capsaicin, and simple carbohydrates, which substantiates the development of elimination protocols for these groups.

The fifth block is devoted to auxiliary strategies. Sobkowska D. et al. [11], in their review, describe the role of cosmetological procedures (microdermabrasion, laser therapy, phototherapy) in alleviating the symptoms of rosacea, emphasising that without control of dietary triggers, the effect of such interventions is predominantly symptomatic.

Thus, the literature reveals a number of contradictions: there is no uniformity in the selection of dietary triggers, the degree of strict elimination and the duration of diets vary, as do the methods for assessing clinical effect; many reviews emphasise potential benefits but are not supported by a sufficient number of large randomised controlled trials. The issues of a personalised approach taking into account genetic polymorphisms of metabolism and microbiota composition are poorly covered; there are insufficient data on the long-term safety of extreme elimination protocols (for example, VLCKD) and on the effect of dietary restrictions in rosacea and atopic dermatitis in adults. In addition, studies assessing the synergistic effect of diet and physical exercise or sleep correction for optimal control of skin inflammation are virtually absent.

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### 3. Results and Discussion

Analysis of available publications demonstrates that elimination diets can become an effective tool within the array of measures for controlling chronic inflammatory dermatoses. At the same time, their benefit is significantly reduced when applied in isolation — without consideration of comorbid pathology and the patient's overall metabolic status. The study summarises practical experience and proposes an integrative approach that regards the skin disease not as a local problem but as an external manifestation of systemic disorders. Its foundation comprises methods aimed at the simultaneous correction of dietary triggers, metabolic dysfunctions, and restoration of the body's barrier functions.

A distinctive feature of the strategy is the transition from standard recommendations diet for psoriasis/eczema to a multi-stage personalised programme. At the first stage, specific dietary provocateurs are identified and excluded using an elimination diet (often in the format of an autoimmune protocol), followed by phased re-introduction of products with continuous monitoring of clinical symptomatology. In contrast to the classical scenario, this programme includes measures to correct concomitant disorders that are the root cause or aggravating factors of the dermatosis [8, 10].

Thus, within the framework of the Nutrition as Therapy System special attention is paid to patients with manifestations of metabolic syndrome. Hyperinsulinaemia and insulin resistance are recognised pro-inflammatory factors [9]. Disorders of carbohydrate metabolism are recorded in a significant proportion of patients with psoriasis and rosacea, so the diet is formed on principles of low glycaemic load: simple sugars and refined products are excluded, and as a basis whole foods rich in dietary fibre are recommended. This helps stabilize fasting glucose and insulin concentrations, which in itself reduces systemic inflammation. Practical results demonstrate a reduction in fasting glucose and insulin levels on average by 20–30 % already within 2–3 months in patients with insulin resistance.

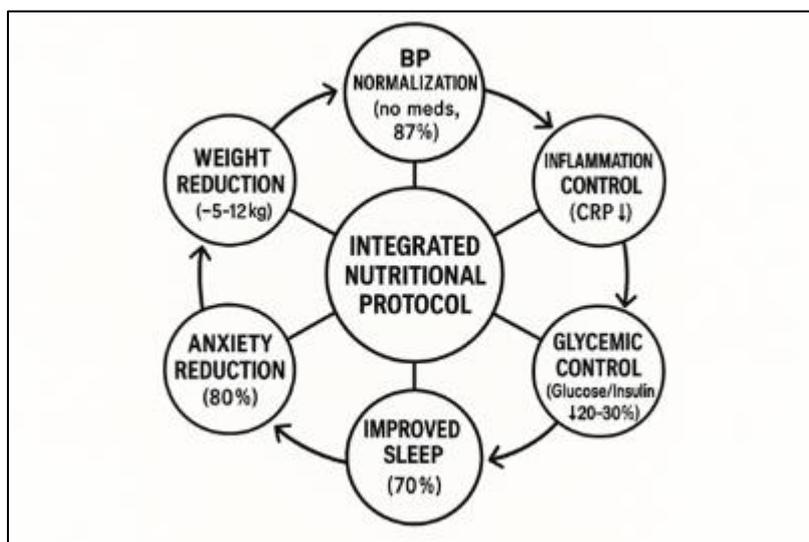
The next element is support for the hepatic detoxification function implemented in the Clean Energy protocol. The liver is the central organ in hormonal metabolism, detoxification, and utilisation of inflammatory mediators. When it is overloaded (reflected by elevated ALT/AST, chronic fatigue, headaches) cutaneous manifestations are usually exacerbated. This programme provides for enrichment of the diet with cruciferous vegetables, greens, and sulphur-containing products, as well as inclusion of nutraceuticals — milk thistle, artichoke, N-acetylcysteine, and an optimal level of protein. Clinical experience shows that such support contributes to normalisation of hepatic biochemical markers and, consequently, to improvement of skin condition and overall well-being [2, 4, 6].

The effectiveness of the proposed approaches is reflected in the summarised results of application of the author's methods. As can be seen from Table 1, the comprehensive intervention shows high indicators for a number of health parameters that directly or indirectly affect the condition of the skin integument.

**Table 1** Summary of the outcomes of integrated nutritional protocols in patients with chronic dermatoses and concomitant metabolic disorders over 1.5–3 months (составлено автором на основе [2, 4, 6, 9, 12]).

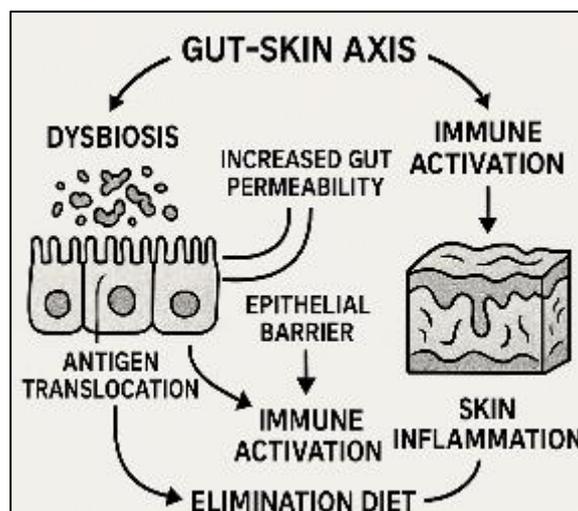
Indicator	Achieved outcome	Percentage of patients with improvement
Blood pressure	Normalization without pharmacological support	87 %
Body mass	Reduction by 5–12 kg	100 % (among patients with overweight)
Inflammatory markers (C-reactive protein)	Significant decrease	60 %
Glycaemic control	Reduction in glucose and insulin by 20–30 %	100 % (among patients with insulin resistance)
Sleep quality	Improved sleep onset and depth	70 %
Anxiety level	Decrease according to questionnaires	80 %

The data presented in Table 1 indicate that systematic optimization of metabolic status — through weight reduction, normalization of arterial pressure, and control of inflammatory processes — establishes the physiological foundation required to achieve remission of the dermatological disease. The integrative intervention model is shown in Figure 1. In contrast to the linear paradigm excluding the product — get the result, this scheme reflects a cyclic, multilevel process in which each component synergistically amplifies the effects of the others.



**Figure 1** Conceptual scheme of an integrated nutritional protocol for the management of patients with chronic inflammatory dermatoses (compiled by the author based on [5, 9, 11, 12]).

In this model, the intestine–skin axis plays a central role, the pathogenetic significance of which is illustrated in Figure 2. Dysbiosis of the intestinal microbiota, together with increased mucosal permeability (leaky gut), triggers a sequence of immune reactions. Within this paradigm, an elimination diet performs a dual function: in addition to removing potential antigens (for example, gluten), it reduces the load on the gastrointestinal tract and creates favorable conditions for the restoration of the microbial community and the barrier integrity of the epithelium.



**Figure 2** Pathogenic role of the “gut-skin” axis and points of application of nutritional therapy (compiled by the author based on [5]).

As an illustration, consider a patient with a 20-year history of arterial hypertension: normalization of blood pressure was achieved not only through dietary measures but also by correcting magnesium deficiency and restoring circadian rhythms—factors that critically influence vascular tone and the organism’s stress resilience. This example underscores that therapeutic efficacy is determined by an integrative, systems-based view of the patient [7, 8].

When discussing the obtained results, it should be noted that implementation of the proposed approach requires high patient motivation and continuous specialist involvement. The absence of universal protocols indicates the need to individualize each program on the basis of anamnesis, clinical presentation, and laboratory findings. Nevertheless, accumulated clinical experience demonstrates that such a strategy not only temporarily alleviates cutaneous manifestations but also achieves sustained remission, substantially improves overall health, and prevents the development of more severe systemic diseases.

#### 4. Conclusion

The analysis of clinical data confirms that elimination diets constitute an important and effective component in the comprehensive treatment of chronic inflammatory dermatoses—specifically psoriasis, eczema, and rosacea. A systematic review of the literature emphasizes the role of the gut-skin axis and concomitant metabolic deviations in the pathogenesis of these disorders.

The study concludes that the highest therapeutic benefit is achieved not through dietary restriction alone but when elimination diets are integrated into a personalized multifactorial program. This comprehensive approach, extending beyond the simple removal of dietary triggers, aims to restore key systemic equilibriums—including insulin sensitivity, hepatic detoxification capacity, regulation of chronic systemic inflammation, and normalization of the gut microbiota.

The results, derived from the synthesis of clinical experience, demonstrate that comprehensive nutritional support contributes to a marked improvement in clinical indicators: a reduction in the volume of pharmacotherapy, correction of metabolic parameters (blood pressure, glycemic profile, body weight), which ultimately leads to stable dermatosis remission and an enhanced quality of life for patients. Thus, the set objective has been achieved—scientific data have been systematized, and the efficacy of the proposed integrated approach has been confirmed. In the future, it is advisable to conduct large-scale randomized controlled trials to verify and standardize such complex nutritional protocols in practical medicine.

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