Insight and impact of nutrition in the management of psoriatic disease: A path to a better outcome

Zarith Sofia Shukri, Ummu Aiman Faisal

Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, 71800 Bandar Baru Nilai, Negeri Sembilan, Malaysia

ABSTRACT

Introduction: Psoriasis is a chronic, immune-mediated inflammatory skin disease that affects between 0.09 and 11.43% of the global population. It is linked to both environmental and genetic causes and is frequently accompanied by coexisting illnesses such as psoriatic arthritis, obesity, metabolic syndrome, and cardiovascular disease. Recent research has focused on the importance of modifiable lifestyle factors, notably nutrition, in determining the progression and severity of psoriatic illness. Inflammation and oxidative stress are key factors in its pathophysiology, and dietary components can influence these processes through immune modulation, alterations in gut microbiota, and metabolic regulation. This review aims to evaluate the impact of specific dietary regimens and nutritional supplements on psoriasis, offering insights into potential integrative treatments for enhanced disease management. **Materials and Methods:** A literature review was conducted using electronic databases, including PubMed, ScienceDirect, Scopus, and Google Scholar. The keywords used were "psoriasis," "nutrition," "diet," "dietary intake," "inflammation," "severity," "management," and "outcomes." Peer-reviewed journal papers, clinical trials, and reviews published in English were considered. The research examined various dietary interventions and supplementation strategies, as well as their impact on psoriasis outcomes, specifically the Psoriasis Area and Severity Index (PASI). The Mediterranean diet, low-calorie ketogenic diets, and gluten-free diets were all evaluated. Additionally, specific nutrients such as vitamin D, omega-3 fatty acids, antioxidants, and polyphenols were explored. **Results:** The data imply that nutrition has a major impact on the aetiology and clinical severity of psoriasis. A low-calorie diet, particularly in overweight or obese patients, was linked to significant reductions in PASI scores and inflammatory markers. Very low-calorie ketogenic diets demonstrated further benefits by improving mitochondrial function and reducing oxidative stress. The Mediterranean diet, which includes anti-inflammatory foods such as olive oil, seafood, fruits, vegetables, and legumes, has been strongly associated with lower disease severity and reduced systemic inflammation. Gluten-free diets have been shown to be particularly effective in patients with psoriasis who have positive antigliadin antibodies or concurrent celiac disease. Nutritional supplements, such as vitamin D, omega-3 polyunsaturated fatty acids, and antioxidants (including vitamins A, C, and E, as well as selenium), have been shown to reduce inflammation and enhance immune function. However, the level of efficacy varied among individuals and was often influenced by underlying metabolic or immunological issues. **Conclusion:** Nutrition is a viable supplementary therapy for the overall management of psoriatic illness. Certain dietary patterns and supplements may help to reduce disease severity, improve immunological balance, and lower comorbid risks. Despite the optimistic findings, the majority of current research is based on observational or cross-sectional studies. Larger, well-designed randomized controlled trials are needed to validate causality and develop realistic dietary recommendations for individuals with psoriasis. Individualized dietary counselling should be considered as part of a multidisciplinary strategy to improve clinical results and quality of life in psoriasis patients.

Keywords: Psoriasis, nutrition, dietary intake, management, severity