Role of Intermittent Fasting on Disease Severity and Quality of Life in Psoriasis and Psoriatic Arthritis: A Systematic Review

Lucy Rose, MD[1]; Ashley N. Gray, MD[2]; Dana Jolley, BS[1]; Anna Schildmeyer, BS[1]; Bianka Bubic, MD[2]; Jessica Kaffenberger, MD[2]; Benjamin H. Kaffenberger, MD, MS[2]

[1]The Ohio State University College of Medicine, Columbus, OH, USA

[2]The Ohio State University Wexner Medical Center, Department of Dermatology, Columbus, OH, USA

Abstract

Psoriasis and psoriatic arthritis (PsA) have a strong association with obesity and metabolic syndrome. Despite patient interest in non-pharmacologic methods to treat psoriasis and manage overall health, there is insufficient data available to guide dietary counseling. This study aimed to identify the role of a popular anti-inflammatory diet known as intermittent fasting (IF) in management of psoriasis and PsA. A systematic review was conducted on PubMed and Embase, which yielded 34 total studies. A total of 14 articles were critically appraised by four investigators. In addition to affecting weight management in patients, IF had direct effects in both psoriasis and PsA disease activity, as well as patient quality of life (QoL). The effects of IF encompass mechanisms independent of weight loss alone. Across all studies, IF was correlated with improvements in patient-reported outcomes of disease activity and quality of life, biometric measurements, and inflammatory laboratory values. This article serves as the first summary of studies that demonstrate a relationship between IF and the disease course of psoriasis and PsA.

Keywords: psoriasis, psoriatic arthritis, intermittent fasting, diet, holistic, alternative medicine.

Academic Dermatology (2026) 4(1):1-10 | https://doi.org/10.18061/ad.5793

Published: March 24, 2026.

Contact author: benjamin.kaffenberger@osumc.edu

INTRODUCTION

Psoriasis is a common skin disease affecting more than 7.5 million Americans and 125 million people worldwide.[1] The condition is associated with multiple comorbidities including, but not limited to, PsA, obesity, and cardiac, metabolic, and gastrointestinal diseases. Currently, treatment regimens for psoriasis and PsA consist of topical and systemic therapies, encompassing corticosteroids, vitamin D analogues, biologics, small molecular inhibitors, Janus kinase (JAK) inhibitors, and phototherapy.[2] However, patients and physicians alike are interested in the impact of diet on psoriatic disease.[3] Previous research supports the notion that diet can be used synergistically with current treatments for disease prevention and progression.[2] While many psoriasis patients are highly motivated to use dietary modification for disease management, there is limited knowledge regarding the types of dietary interventions that may aid in psoriasis treatment.[3]

Weight loss is beneficial for decreasing disease severity in psoriasis patients.[1, 2, 4, 5] This association is supported by the relationships between obesity and increased psoriasis incidence, severity, and therapeutic failure.[6-8] Recently, intermittent fasting (IF) has become a popular weight loss diet method. IF alters the timing of food consumption without limiting the types of foods consumed. Although IF produces similar weight loss results to caloric restriction diets,[9] it offers additional benefits in terms of anti-inflammatory effects and reduced oxidative stress, compounding its potential to aid in the treatment of inflammatory diseases such as psoriasis.[8, 10, 11] The pathogenic cascade in psoriasis and obesity is bolstered by the increased production of pro-inflammatory cytokines including IL-17, IL-23, IL-6, and TNF. Therefore, IF has the potential to profoundly impact psoriasis disease severity.[6, 7, 12]

Given the increased interest in lifestyle management of psoriasis, paired with the promising preliminary research regarding the role of IF in psoriasis and PsA, the need for evidence-based recommendations regarding emerging diets like IF is imperative. Our study aims to identify the role of IF in disease severity and quality of life in patients with psoriasis and PsA.

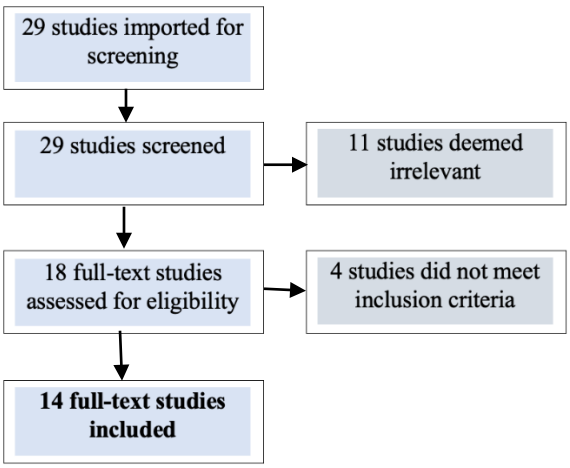
METHODS

This systematic review was registered with PROSPERO. The researchers used the following search strategy on PubMed and Embase: (("Fasting"[Mesh]) OR "Intermittent Fasting"[Mesh] OR "intermittent fasting" OR “restricted eating” OR “restricted fasting” OR “restricted feeding”) AND (psoriasis OR ("Arthritis, Psoriatic"[Mesh]) OR "psoriatic arthritis" OR "psoriatic arthropathy" OR “psoriatic arthropathica” OR pustulosis). To be included, articles were required to: 1. be accessible in English; 2. contain patient-level data on patients with psoriasis or psoriatic arthritis; and 3. use a confirmed strategy of IF. Studies with animal models were excluded.

A total of 34 articles were identified in the initial search, including 25 from PubMed and 9 from Embase. Duplicates were removed, and abstracts were reviewed for inclusion and exclusion criteria. 14 of the articles were included in the final analysis. Of the 14 articles, two of these articles were protocols without published results, which were included to assess study design (Figure 1).

Articles which feature time-restricted eating (TRE), such as Ramadan fasting and IF, were included in the final report. All included articles had primary outcomes related to psoriasis and/or PsA disease management.

Figure 1. *PRISMA flowchart.*



RESULTS

The results of the literature review are detailed in Table 1. Of the n=34 studies identified using MeSH terms in PubMed, n=14 studies were included in the final analysis. Of the 14 unique studies, there were five clinical trials, four systematic reviews, one narrative review, two protocols with ongoing clinical trials, one follow-up observational study to a clinical trial, and one survey of patients. Over 50% of the clinical trials were related to Ramadan fasting. Only one of the clinical trials was randomized and controlled in its design. Nine studies were related to the disease course of psoriasis, while three were related to PsA. These 14 studies featured outcome measures such as dermatology life quality index (DLQI), psoriasis area and severity index (PASI) and skin involvement, biometric measurements, joint symptoms, and inflammatory laboratory values.

Tables 1a-1c. *Studies included in the final review.*

Table 1a. *Clinical trials.*

Author	N. Almutairi et al.	M. Adawl et al.	G. Damiani et al.	P. Jensen et al.	H. Lithell et al.
Year	2022	2019	2019	2013	1983
Study Type	Clinical Trial	Clinical Trial	Clinical Trial	Clinical Trial	Clinical Trial
Country	Kuwait	Israel	Italy	Denmark	Sweden
Multicenter	No	Yes	Yes	No	No
Condition	Plaque Psoriasis	PsA	Plaque Psoriasis	Plaque Psoriasis	PsA
Energy Restriction Type	14-hour fast daily for 1 month	17-hour fast daily for 1 month	17-hour fast daily for 1 month	Low energy diet for 54 weeks	Low energy diet for 2 weeks, followed by a vegan diet for 1 week
Ramadan	Yes	Yes	Yes	No	No
Number of Patients	121	37	108	60	14
Randomized	No	No	No	Yes	No
Controlled	No	No	No	Yes	No
Primary Outcome Measure	PASI	DAPSA, BASDAI, LEI, DSS	PASI	Dermatologic Exam	PASI, PsARC
Secondary Outcome Measure	Weight, biochemical parameters	Biochemical parameters	BMI	DLQI	Subjective Improvement on a 5-point scale; biochemical parameters

Table 1b. *Observational studies.*

Author	Gray et al.	P. Jensen et Al.	L. Grine et al.	M. Haugen et al.
Year	2022	2016	2022	1991
Study Type	Protocol	Observational Study	Protocol	Survey
Country	United States	Denmark	Belgium	Norway
Multicenter	No	No	No	No
Condition	Psoriasis; PsA	Plaque Psoriasis	Psoriasis	Psoriatic Arthropathy
Energy Restriction Type	16-hour daily fast for 12 weeks, crossed over with regular diet for 12 weeks	Low energy diet for 64 weeks	Modified intermittent fasting for 12 weeks, crossed over to regular diet for 12 weeks	N/A
Ramadan	No	No	No	No
Number of Patients	60	32	24	51
Randomized	Yes	Yes	Yes	No
Controlled	Yes	Yes	Yes	No
Primary Outcome Measure	PASI	PASI	Subjective disease aggravation	N/A
Secondary Outcome Measure	DLQI, BSA, PGA, enthesitis, dactylitis, NAPSI, biometrics	DLQI	Biometric measurements, biochemical parameter, satisfaction scores	Pain, stiffness, joint swelling

Table 1c. *Reviews.*

Author	S. Zanesco et al.	Y. Jiang et al.	M. Wolters et al.	M. Barati et al.	Mansilla-Polo et al.
Year	2022	2021	2006	2023	2023
Study Type	Systematic Review	Systematic Review	Systematic Review	Systematic Review	Narrative Review
Country	United Kingdom	United States	Germany	Iran	Italy
Condition	Plaque Psoriasis	Psoriasis; PsA	Psoriasis	Psoriasis; PsA	Psoriasis; PsA
Aim	Explore the mechanisms by which TRE may be protective in psoriasis	Further develop evidence-based dietary recommendations for psoriasis and other immune-mediated, inflammatory diseases	Review importance of diet in psoriasis	Review impact of IF on autoimmune disorders, including psoriasis; reviews safety and efficacy of IF when used alone and synergistic effects with other therapies	Review popular diets and the subsequent effects on skin disorders including psoriasis.
Key Findings	-TRE leads to weight loss and reduced inflammation -Small-scale studies show promising results, but larger-scale studies are needed	-Low-calorie diets demonstrate improved quality of life and disease activity -Calorie-restricted and fasting diets lead to both short- and long-term benefits	-Fasting can improve inflammatory symptoms due to ROS -Energy-restriction diets demonstrate promising results	-IF, environment, and diet play critical role in pathogenesis and exacerbation of psoriasis -IF is safe and effective when used alone or synergistically with other therapies -Mechanisms of action include reduced inflammatory markers and oxidative stress	-PASI scores improve during Ramadan, specifically in moderate-to-severe psoriasis -A prospective trial is underway comparing IF to regular diet

Tables 1a-1c Legend. *PsA = psoriatic arthritis; PASI = psoriasis area and severity index; DAPSA = disease activity index for psoriatic arthritis; BASDAI = Bath Ankylosing Spondylitis Disease Activity Index; LEI = Leeds enthesitis index; DSS = dactylitis severity score; MDA = minimal disease activity; BMI = body mass index; DLQI = dermatology life quality index; PPP = palmoplantar pustulosis; BSA = body surface area; PGA = physician global assessment; NAPSI = nail psoriasis severity index; ROS = reactive oxygen species.*

Types of Intermittent Fasting

There is a high degree of variability in how IF diets can be performed. The most common patterns used throughout the literature include:

1. Time-Restricted Eating (TRE): Restricting eating to specific times of the day. For example, only consuming food from 12 pm to 8 pm.
2. Modified Intermittent Fasting (MIF): Restricting caloric consumption, but only on specific days. For example, restricting caloric intake to 20-25% of usual daily calories two days per week and eating a normal diet on the other five days per week.
3. Low energy diet (LED): Restricting the amount of calories consumed per day. For example, eating 1200 calories or less per day.
4. Ramadan fasting: Restricting eating from dawn to sunset for 29 or 30 days.

Quality of Life

QoL was measured quantitatively using validated assessments and qualitatively across patient interviews. One measurement included scores taken from the dermatology life quality index (DLQI) scores. A clinical trial that included 60 patients, 30 of whom fasted for one month, found that patients who fasted reported better DLQI scores.[12] This trend in improved DLQI scores was maintained 64 weeks after patients participated in fasting.[13]

PASI Score and Skin Involvement

One study found that after one month of Ramadan fasting, there was a statistically significant decrease in PASI scores.[14] Here, Ramadan fasting is used as a proxy for IF, as patients withheld from eating for approximately twelve hours daily. A second Ramadan study saw that those who fasted during Ramadan reported a statistically significant decrease in PASI score from 4.36 to 3.51.[15]

Two studies measured changes in skin findings after a period of IF. After completing a two-week fasting period, patients rated their skin involvement on a scale of one to five, with five being the most severe. After this period, 80% of patients found statistically significant improvement in the amount of skin involved, evidenced by a decrease in skin involvement scores.[16] A second study that utilized questionnaires saw a significant reduction in patient-reported skin involvement after fasting.[17]

A systematic review conducted in 2023 concluded that across studies, PASI scores improved in patients who had been diagnosed with moderate to severe psoriasis.[18]

Weight

A randomized control trial of 21 patients with mild to moderate psoriasis utilized a modified intermittent fasting (MIF) model where patients in the intervention group were asked to partake in intermittent fasting for two nonconsecutive days over the course of 12 weeks. Patients who partook in MIF were found to have a statistically significant decrease in waist circumference ($p = 0.008$), weight ($p < 0.05$), and BMI ($p < 0.05$), as compared to those who did not fast.[19]

Interestingly, a different clinical trial of 37 patients with psoriasis found that those who participated in one month of Ramadan fasting had a significant improvement in psoriasis severity scores, even when controlling for weight loss.[20] This study highlights that weight loss is not the sole benefit to management of psoriasis.

Joint Involvement

Several studies considered the degree of joint involvement in patients with PsA. After fasting for 7-10 days, 71% of patients with PsA reported less pain, 60% reported less joint stiffness, and 52% noted improvement in joint swelling, all of which were statistically significant findings.[21] Furthermore, a clinical trial including patients with PsA found decreased disease activity index for psoriatic arthritis (DAPSA) scores, Leeds enthesitis index scores (LEI), and dactylitis severity scores (DSS) after one month of Ramadan fasting.[20]

Inflammatory Markers

Three studies analyzed the impact of IF on acute inflammatory markers. A systematic review found that patients who adopted time-restricted eating (TRE) patterns had a reduction in inflammatory marker values, such

as TNF and IL-6.[22] A second systematic review article correlated periods of IF with a 45% reduction in proliferation rate of epidermal cells, as well as decreased production of reactive oxygen species (ROS).[17] A 2019 clinical trial included 37 patients with psoriasis who fasted for 17 hours a day during a month of Ramadan. After fasting, patients had a significant decrease in C-reactive protein (CRP) levels, which serves as a marker for acute inflammation.[21] Another study measured changes in triglyceride and glucose levels after a period of fasting. After one month of Ramadan fasting, 38% of patients had statistically significant decreases in fasting triglyceride and glucose levels, and an increase in HDL levels, supporting the anti-inflammatory effects of IF.[15] A systematic review conducted in 2023 concluded that success in disease reduction is largely due to reduced inflammatory markers and ROS.[23]

DISCUSSION

While topical and systemic therapies are the current mainstays of treatment for psoriasis and PsA, patients and physicians have become increasingly interested in the role of diet in disease prevention and progression.[3] A survey conducted in 2022 showed that 50% of patients with psoriasis used complementary alternative medicine (CAM) tools, such as herbal supplements or nutritional changes, to manage their disease.[24] It was also revealed that patients sought CAM when psoriasis became more severe, started to involve their face or genital region, or became accompanied with joint pain.[24] A second survey revealed that 86% of patients with psoriasis specifically attempted to adjust their diet to improve disease severity.[3]

Many of the dietary interventions proposed for the management of psoriasis have been driven by patients or weight-loss opinion leaders without rigid study of intervention success and the effects on systemic inflammatory profiles. The lack of data surrounding dietary modifications in psoriasis management has left dermatologists ill-equipped to counsel patients on evidence-based dietary recommendations. One study found that less than 50% of patients reported feeling comfortable discussing dietary modifications with their dermatologist,[25] and some researchers advocate for greater dermatologist training in discussing non-pharmacological complementary therapies for patients with psoriasis.[25]

Diet strategies and interventions are rapidly evolving, with 8 of our 14 studies being published in 2021 or later, three of which were just published in 2023. The two protocols have clinical trials actively underway. Taken together, our review serves to synthesize the current available information regarding IF for dermatologists to utilize when counseling patients. Other studies have not encompassed all current research, or acknowledged that a significant portion of what we know or will learn is still being elucidated. Overall, our review has demonstrated that IF is safe, effective in the majority of patients with psoriasis in improving disease activity, yields the best results when used synergistically with other therapies, and provides many additional health benefits related to metabolism.

Several limitations were considered. First, only one of the studies was a randomized controlled design. This limits the impact of the other five clinical trials. Second, the principal investigator of the randomized trial was unblinded to treatment allocation, potentially introducing observer bias. Third, it is not possible to blind patients to their treatment allocation, placing significant risks for performance bias, especially in subjective outcomes like patient-reported outcomes. Fourth, the studies that utilized personal recording of dietary adherence can be subjective in nature and challenging for patient adherence.

Furthermore, there was a wide variety of types of intermittent fasting across studies. Several of our studies restricted eating to certain hours of the day, some were for eight hours per day, and others depended on seasonal and geographical variations in sunrise and sunset. In addition, it was noted that no studies measured variations in outcomes given changes in fasting times, fasting durations, daily caloric measures, or the quality of food consumed between fasting periods. This heterogeneity makes it particularly challenging for clinicians to understand the most effective forms of IF for their patients. In addition, many studies had short study periods, specifically four weeks for the Ramadan fasting studies, or short follow-up periods of only 4-6 months, limiting the ability to evaluate long-term results of intermittent fasting on psoriasis severity.

External validity is also challenging to interpret, given that most studies were not conducted in the United States. An additional potential limitation is the number of dermatologists evaluating the participants' disease activity before and after intervention. Only one study used two dermatologists for evaluation and a third for consensus, if needed. Finally, the baseline disease severity was not consistent among all studies. Many studies used DLQI, PASI, DAPSA, LEI, and DSS scores, which serve as proxies for determining disease severity due to specific clinical features.

Given the substantial limitations surrounding the included studies, it is challenging to determine an authoritative relationship between IF and the management of psoriasis at this time.

CONCLUSIONS

Intermittent fasting is a popular nutritional regimen, which modifies times available for caloric consumption, rather than the quantity or quality of calories consumed. IF has the potential to support patients in achieving more control of psoriasis or PsA, and should be considered in patients when topical therapies are not necessary, when biologic therapies are not safe due to other comorbidities, or when biologic therapies have not resulted in disease control. This review of current literature found promising results for IF's role in the clinical management of psoriasis and PsA. Improvements in QoL, weight loss, joint and skin involvement, inflammation, cholesterol, and glucose were reported across a majority of included studies. Still, there has only been one randomized clinical trial studying patient outcomes following IF. Though two clinical trials are underway, no non-religious studies of IF in patients with psoriasis and PsA have finalized results.[26, 27] To establish stronger relationships between IF and disease measures in psoriasis and PsA, more robust, multi-centered, randomized-controlled trials are needed.

This systematic review serves as the first summary of the role that IF has been proven to play in patients with psoriasis and PsA. Given that there is not yet a clear relationship between IF and its effect on the management of psoriasis and PsA, dermatologists are encouraged to discuss these preliminary findings with patients who express an interest in non-pharmacologic treatment options.

Abbreviations

BASDAI	Bath Ankylosing Spondylitis Disease Activity Index
BMI	Body mass index
BSA	Body surface area
CAM	Complementary alternative medicine
CRP	C-reactive protein
DAPSA	Disease activity index for psoriatic arthritis
DLQI	Dermatology life quality index
DSS	Dactylitis severity score
GLMM	Generalized linear mixed modeling
IF	Intermittent fasting
IL	Interleukin
LED	Low energy diet
LEI	Leeds enthesitis index
MIF	Modified intermittent fasting
NAPSI	Nail psoriasis severity index
PASI	Psoriasis area and severity index
PGA	Physician global assessment

PPP	Palmoplantar pustulosis
PsA	Psoriatic arthritis
QoL	Quality of life
ROS	Reactive oxygen species
TNF	Tumor necrosis factor
TRE	Time-restricted eating
VLED	Very low energy diet

REFERENCES

1. Takeshita J, Grewal S, Langan SM, et al. Psoriasis and comorbid diseases: Epidemiology. *JAm Acad Dermatol.* 2017;76:377-390. https://doi.org/10.1016/j.jaad.2016.07.064
2. Ford AR, Siegel M, Bagel J, et al. Dietary recommendations for adults with psoriasis or psoriatic arthritis from the Medical Board of the National Psoriasis Foundation: A systematic review. *JAMA Dermatol.* 2018;154:934-950. https://doi.org/10.1001/jamadermatol.2018.1412
3. Afifi L, Danesh MJ, Lee KM, et al. Dietary behaviors in psoriasis: Patient-reported outcomes from a U.S. national survey. *Dermatol Ther (Heidelb).* 2017;7:227-242. https://doi.org/10.1007/s13555-017-0183-4
4. Pona A, Haidari W, Kolli SS, et al. Diet and psoriasis. *Dermatol Online J.* 2019;25:13030/qt1p37435s. https://doi.org/10.5070/D3252042883
5. Fernández-Armenteros JM, Gómez-Arbonés X, Buti-Soler M, et al. Psoriasis, metabolic syndrome and cardiovascular risk factors. A population-based study. *J Eur Acad Dermatol Venereol.* 2019;33:128-135. https://doi.org/10.1111/jdv.15159
6. Shelling ML, Kirsner RS. Gaining insights into the relationship of obesity, weight loss, and psoriasis. *JAMA Dermatol.* 2013;149:801. https://doi.org/10.1001/jamadermatol.201 3.3383
7. Zuccotti E, Oliveri M, Girometta C, et al. Nutritional strategies for psoriasis: Current scientific evidence in clinical trials. *Eur Rev Med Pharmacol Sci.* 2018;22:8537-8551. https://doi.org/10.26355/eurrev_201812_16554
8. Yang F, Liu C, Liu X, et al. Effect of epidemic intermittent fasting on cardiometabolic risk factors: A systematic review and meta-analysis of randomized controlled trials. *Front Nutr.* 2021;8:669325. https://doi.org/10.3389/fnut.2021.669325
9. Varady KA. Intermittent versus daily calorie restriction: Which diet regimen is more effective for weight loss?. *Obes Rev*. 2011;12(7):e593-601. https://doi.org/10.1111/j.1467-789X.2011.00873.x
10. De Cabo R, Mattson MP. Effects of intermittent fasting on health, aging, and disease. *N Engl J Med.* 2019;381:2541-2551. https://doi.org/10.1056/NEJMra1905136
11. Mattson MP, Longo VD, Harvie M. Impact of intermittent fasting on health and disease processes. *Ageing Res. Rev.* 2017;39:46-58. https://doi.org/10.1016/j.arr.2016.10.005
12. Jensen P, Zachariae C, Christensen R, et al. Effect of weight loss on the severity of psoriasis: A randomized clinical study. *JAMA Dermatol.* 2013;149:795. https://doi.org/10.1001/jamadermatol.2013.722
13. Jensen P, Christensen R, Zachariae C, et al. Long-term effects of weight reduction on the severity of psoriasis in a cohort derived from a randomized trial: A prospective observational follow-up study. *Am J Clin Nutr*. 2016;104(2):259-265. PMID: 27334236. https://doi.org/10.3945/ajcn.115.125849
14. Damiani G, Watad A, Bridgewood C, et al. The impact of Ramadan fasting on the reduction of PASI score, in moderate-to-severe psoriatic patients: A real-life multicenter study. *Nutrients*. 2019;11(2):277. PMID: 30691245; PMCID: PMC6412911. https://doi.org/10.3390/nu11020277
15. Almutairi N, Shaaban D. Clinical implications of intermittent Ramadan fasting on stable plaque psoriasis: A prospective observational study. *Postepy Dermatol Alergol.* 2022;39(2):368-374. PMID: 35645682; PMCID: PMC9131972. https://doi.org/10.5114/ada.2021.107098
16. Lithell H, Bruce A, Gustafsson IB, et al. A fasting and vegetarian diet treatment trial on chronic inflammatory disorders. *Acta Derm Venereol*. 1983;63(5):397-403. PMID: 6197838. https://doi.org/10.2340/0001555563397403

17. Wolters, M. Die Bedeutung der Ernährung und begleitender Faktoren für die Psoriasis. *Hautarzt.* 2006;57, 999-1004. https://doi.org/10.1007/s00105-006-1164-1
18. Barati M, Ghahremani A, Ahmadabad HN. Intermittent fasting: A promising dietary intervention for autoimmune diseases. *Autoimmun Rev*. 2023;22(10):103408. https://doi.org/10.1016/j.autrev.2023.103408
19. Grine, L, Hilhorst N, Strobbe F, et al. The effects of modified intermittent fasting in psoriasis (MANGO): Preliminary results of a pilot crossover study." *Br J Dermatol*. 2022;186(1):E22. https://biblio.ugent.be/publication/8756384
20. Adawi M, Damiani G, Bragazzi NL, et al. The impact of intermittent fasting (Ramadan fasting) on psoriatic arthritis disease activity, enthesitis, and dactylitis: A multicentre study. *Nutrients.* 2019;11(3):601. PMID: 30871045; PMCID: PMC6471071. https://doi.org/10.3390/nu11030601
21. Haugen M, Kjeldsen-Kragh J, Nordvåg BY, et al. Diet and disease symptoms in rheumatic diseases: Results of a questionnaire based survey. *Clin Rheumatol.* 1991;10(4):401-407. PMID: 1802495. https://doi.org/10.1007/BF02206660
22. Zanesco S, Hall W, Gibson R, et al. Approaches to nutrition intervention in plaque psoriasis, a multi-system inflammatory disease—The Diet and Psoriasis Project (DIEPP). *Nutr Bull*. 2022;47:524-537. https://doi.org/10.1111/nbu.12580
23. Arora N, Pulimamidi S, Yadav H, et al. Intermittent fasting with ketogenic diet: A combination approach for management of chronic diseases. *Clin Nutr ESPEN*. 2023;54:166-174. PMID: 36963859. https://doi.org/10.1016/j.clnesp.2023.01.024
24. Kayıran MA, Karadağ AS, Topal İO, et al. Patient use of complementary and alternative medicine for psoriasis vulgaris and factors believed to trigger the disease: A multicenter cross-sectional study with 1621 patients. *Dermatol Pract Concept*. 2022;12(4):e2022190. PMID: 36534567; PMCID: PMC9681383. https://doi.org/10.5826/dpc.1204a190
25. Ben-Arye E, Ziv M, Frenkel M, et al. Complementary medicine and psoriasis: Linking the patient's outlook with evidence-based medicine. *Dermatology.* 2003;207(3):302-307. PMID: 14571074. https://doi.org/10.1159/000073094
26. Grine L, Hilhorst N, Michels N, et al. The effects of modified intermittent fasting in psoriasis (MANGO): Protocol for a two-arm pilot randomized controlled open cross-over study. *JMIR Res Protoc.* 2022;11(2):e26405. https://doi.org/10.2196/26405
27. Gray A, Rose A, Jolley D, et al. Role of intermittent fasting on disease severity and quality of life in psoriasis and psoriatic arthritis: A single-blind parallel group randomized control trial. *Acad Dermatol.* 2023;1(1):1-5. https://doi.org/10.18061/ad.v1i1.9343