World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(REVIEW ARTICLE)

Check for updates

Quality of life impairment beyond skin severity in patients with psoriasis: A narrative review

Jovan Dewanta Natanael [1,*], Cita Rosita Sigit Prakoeswa [2], Anang Endaryanto [3] and Menul Ayu Umborowati [4]

[1] *Medical Study Program, Faculty of Medicine, Universitas Airlangga, Surabaya, East Java, Indonesia*
[2] *Department of Dermatology, Venereology, and Aesthetics, Faculty of Medicine, Universitas Airlangga / Dr. Soetomo General Academic Hospital, Surabaya, East Java, Indonesia*
[3] *Department of Child Health, Faculty of Medicine, Universitas Airlangga / Dr. Soetomo General Academic Hospital, Surabaya, East Java, Indonesia*
[4] *Department of Dermatology, Venereology, and Aesthetics, Faculty of Medicine, Universitas Airlangga / Dr. Soetomo General Academic Hospital, Surabaya, East Java, Indonesia*

World Journal of Advanced Research and Reviews, 2026, 31(01), 833–839

Publication history: Received on 08 June 2026; revised on 12 July 2026; accepted on 15 July 2026

Article DOI: https://doi.org/10.30574/wjarr.2026.31.1.1907

Abstract

Background: Psoriasis is a chronic immune-mediated inflammatory skin disease that affects patients beyond visible skin lesions. Although clinical severity is commonly assessed using the Psoriasis Area and Severity Index (PASI), the daily burden experienced by patients is more broadly reflected by patient-reported measures such as the Dermatology Life Quality Index (DLQI). This review discusses quality-of-life impairment in patients with psoriasis beyond skin severity alone.

Methods: A narrative review was conducted using literature from PubMed, Google Scholar, Scopus, and ScienceDirect. Relevant articles addressing psoriasis, quality of life, DLQI, PASI, symptom burden, psychosocial burden, treatment burden, adherence, and patient-reported outcomes were included.

Results: Psoriasis may impair quality of life through persistent symptoms, sleep disturbance, embarrassment, stigma, emotional distress, social limitation, occupational difficulties, and treatment-related burden. PASI is useful for measuring erythema, induration, scaling, and body surface area involvement, but it does not directly capture how the disease affects sleep, confidence, relationships, daily activities, or treatment experience. DLQI provides a complementary view by assessing the patient's perception of disease impact. Therefore, clinical severity and patient-perceived burden may be related but not always proportional.

Conclusion: Quality-of-life assessment should be integrated into routine psoriasis management alongside clinical severity scoring. A patient-centered approach that considers both objective disease activity and subjective burden may improve treatment planning, adherence, satisfaction, and long-term care outcomes.

Keywords: Quality of life; Psoriasis; Dermatology Life Quality Index; Psoriasis Area Severity Index; Treatment burden; Patient-reported outcomes

1. Introduction

Psoriasis is a chronic immune-mediated inflammatory skin disease that is commonly recognized by erythematous, scaly, and well-demarcated plaques. In clinical practice, however, the burden of psoriasis is not limited to what can be

* Corresponding author: Jovan Dewanta Natanael

observed on the skin. Many patients live with recurring symptoms, repeated treatment, uncertainty about flares, and concern about how their skin is perceived by others. For this reason, psoriasis should be understood not only as a disease of cutaneous inflammation, but also as a condition that can affect daily comfort, emotional well-being, social confidence, and long-term self-management [1,2].

The impact of psoriasis on quality of life can be substantial even when the visible extent of disease appears limited. Itching, pain, scaling, bleeding, and sleep disturbance may interfere with rest, concentration, work, and daily activities. At the same time, visible lesions may cause embarrassment, avoidance of social situations, and reduced self-confidence. These problems are not always proportional to the area of skin involved. A small lesion on the face, scalp, hand, nail, palm, sole, or genital area may disturb a patient more than a larger lesion located in a less visible or less functionally important site [3].

This difference between clinical appearance and patient experience is important because psoriasis severity is often assessed using physician-based instruments such as the Psoriasis Area and Severity Index (PASI). PASI is useful for evaluating erythema, induration, scaling, and body surface area involvement, and it remains important for monitoring disease severity and treatment response. However, PASI does not directly ask how the disease affects sleep, mood, work, relationships, clothing choices, treatment routine, or self-confidence. These aspects are better captured by patient-reported outcome measures such as the Dermatology Life Quality Index (DLQI), which evaluates the effect of skin disease on symptoms, feelings, daily activities, leisure, work or school, relationships, and treatment [4,5].

However, the relationship between clinical severity and quality of life should not be interpreted as completely independent. Several studies have demonstrated that improvement in PASI scores, particularly achievement of near-complete or complete skin clearance, is associated with meaningful improvement in DLQI and patient satisfaction. Greater reduction in inflammatory lesions may reduce visible disease, physical discomfort, and psychological distress, suggesting that controlling objective disease activity remains an important component of improving patient outcomes. Therefore, the limitation of PASI is not that it lacks clinical value, but rather that it may not capture the full spectrum of patient burden when used alone. A combined assessment incorporating both physician-based severity measures and patient-reported outcomes may provide a more comprehensive evaluation of treatment success [5-7].

Therefore, clinical severity and quality-of-life impairment should be viewed as related but not identical dimensions of psoriasis. Some patients with more extensive disease may adapt well or feel adequately supported, while others with limited disease may experience marked distress because of lesion location, pruritus, stigma, treatment inconvenience, or fear of recurrence. This explains why relying only on visible skin severity may lead to incomplete assessment of disease burden and may miss problems that are important to the patient [8].

Although PASI and DLQI are both widely used in psoriasis research and clinical care, the conceptual difference between visible disease severity and patient-perceived burden is often underemphasized in routine assessment. This narrative review discusses quality-of-life impairment in patients with psoriasis, focusing on symptom burden, psychosocial burden, treatment burden, and the relationship between clinical severity and patient-reported outcomes. The review emphasizes the need to evaluate psoriasis beyond skin severity scores, so that treatment decisions can better reflect both objective disease activity and the patient's lived experience.

2. Methods

This narrative review was conducted through a literature search of electronic databases including PubMed, Google Scholar, Scopus, and ScienceDirect. Relevant articles were identified using combinations of keywords related to psoriasis, quality of life, Dermatology Life Quality Index, DLQI, Psoriasis Area and Severity Index, PASI, pruritus, sleep disturbance, psychological burden, stigma, treatment burden, adherence, and patient-reported outcomes.

Articles were selected based on their relevance to quality-of-life impairment in patients with psoriasis. Original studies, review articles, clinical guidelines, and methodological papers were considered when they addressed clinical severity, patient-reported outcomes, symptom burden, psychosocial burden, treatment-related burden, or adherence in psoriasis. The selected literature was synthesized narratively according to major themes. Because this article is a narrative review, no formal systematic review protocol, meta-analysis, or risk-of-bias assessment was performed.

In this review, quality-of-life impairment in psoriasis is understood as a multidimensional burden that extends beyond visible inflammatory severity. Four major dimensions are emphasized: physical symptom burden, psychosocial and social burden, treatment-related burden, and patient-centered assessment using DLQI. PASI primarily reflects clinician-observed inflammatory severity, whereas DLQI helps capture how symptoms, social consequences, functional

limitations, and treatment demands affect the patient's daily life. This framework allows psoriasis burden to be interpreted as both a clinical and patient-experienced phenomenon.

2.1. Physical and Symptom Burden in Psoriasis

Psoriasis produces a wide range of physical symptoms that can substantially impair daily life. Although the disease is often assessed through visible signs such as erythema, scaling, induration, and body surface area involvement, patients may experience symptoms that are not fully captured by clinical severity scores. Pruritus is one of the most common and disturbing symptoms in psoriasis and may lead to scratching, discomfort, skin injury, irritability, and reduced concentration. Pain, burning sensation, skin tightness, bleeding, and scaling may also interfere with daily activities and personal comfort [9,10].

Sleep disturbance is another important consequence of symptom burden in psoriasis. Persistent itching, discomfort, and pain may disrupt sleep initiation and sleep maintenance, resulting in fatigue, daytime sleepiness, reduced productivity, and impaired emotional regulation. Sleep problems may also worsen psychological distress and reduce the patient's ability to cope with chronic disease. Therefore, symptom burden may contribute to quality-of-life impairment independently of the objective extent of skin lesions [10,11].

The anatomical location of lesions is also important in determining patient burden. Psoriasis affecting visible areas such as the face, scalp, hands, and nails may cause embarrassment and social discomfort, while involvement of palms, soles, and genital areas may produce pain, functional limitation, and interpersonal difficulties. Patients with relatively limited body surface area involvement may still experience significant quality-of-life impairment when lesions occur in sensitive, visible, or functionally important sites. This explains why physical burden in psoriasis should not be evaluated only through total lesion extent or clinical severity score [3,8,13,14].

These findings highlight the importance of assessing symptoms together with objective clinical severity. While PASI remains useful for evaluating inflammatory severity and treatment response, it does not directly measure itching, pain, sleep disturbance, discomfort, embarrassment, or functional impairment. Patient-reported outcome measures such as DLQI are therefore important because they capture aspects of disease burden that may be missed during physical examination alone [4,5].

2.2. Psychosocial and Social Burden of Psoriasis

Beyond physical symptoms, psoriasis can substantially affect psychological well-being and social functioning. Because psoriatic lesions are often visible to others, patients may experience embarrassment, shame, reduced self-confidence, and concern about negative judgment. The visibility of the disease may lead patients to feel different from others or become overly aware of their appearance, particularly when lesions involve exposed areas such as the face, scalp, hands, or nails. These emotional responses contribute to the broader psychosocial burden of psoriasis beyond the inflammatory activity of the skin itself [11].

Stigma is one of the most important social consequences experienced by patients with psoriasis. Misconceptions that psoriasis is contagious or related to poor hygiene may result in discrimination, social rejection, or uncomfortable interactions. As a result, some patients may avoid activities involving skin exposure, including swimming, sports, social gatherings, or intimate relationships. This avoidance behavior may reduce social participation and negatively affect overall quality of life, even when the clinical severity of psoriasis appears limited [11-13].

The psychological impact of psoriasis may also include anxiety, depressive symptoms, frustration, and emotional distress. Living with a chronic relapsing disease can create uncertainty regarding future flares and treatment effectiveness. Patients may experience a loss of control over their condition, particularly when symptoms recur despite treatment. These psychological effects may further influence coping ability, treatment satisfaction, and adherence to long-term management plans [11,12,19].

The impact of psoriasis extends beyond individual emotional experiences and may affect occupational, educational, and interpersonal functioning. Visible lesions, discomfort, and concerns about appearance may influence workplace interactions, productivity, and confidence in professional environments. In younger patients, psoriasis may interfere with social development, self-image, and peer relationships. Furthermore, involvement of sensitive areas such as genital psoriasis may affect intimacy and sexual well-being, creating additional burdens that are often underreported during routine consultations [12,14].

Therefore, assessment of psoriasis burden should consider not only the presence and severity of skin lesions, but also the psychological and social consequences experienced by patients. A patient with limited body surface area involvement may still experience substantial impairment when the disease affects self-esteem, social participation, or personal relationships. Recognizing these factors supports a more comprehensive and patient-centered approach to psoriasis management [3,5].

2.3. Treatment Burden and Adherence

Treatment is intended to reduce psoriasis burden, but the treatment process itself can become part of the patient's burden. Psoriasis often requires long-term management, repeated follow-up, and continuous self-care. Even when therapy is effective, the routine of applying medication, attending appointments, undergoing laboratory monitoring, managing side effects, and maintaining adherence may interfere with daily life. This is especially relevant in a chronic relapsing disease where treatment often continues beyond short-term symptom control [15,16].

Topical therapy illustrates this problem clearly. Topical medications are commonly used and clinically important, but they may be time-consuming, greasy, messy, or difficult to apply. Application may be particularly challenging when lesions are widespread or located on the scalp, back, palms, soles, or genital area. Patients may also become discouraged when improvement is slow or when plaques recur after treatment is stopped. In such situations, poor adherence may reflect not indifference, but the practical difficulty of fitting treatment into everyday life [17].

Phototherapy and systemic therapy may create different forms of burden. Phototherapy may require repeated clinic visits, which can interfere with work, school, transportation, and family responsibilities. Conventional systemic agents may require monitoring and may raise concerns about adverse effects. Biologic therapy can provide substantial clinical improvement for many patients, but cost, access, injections, long-term monitoring, and fear of side effects may still influence the patient's experience. Therefore, improvement in skin signs does not always mean that treatment has become easy for the patient [18].

Treatment burden is closely related to adherence. Patients are more likely to follow a treatment plan when they believe it is effective, practical, safe, affordable, and clearly explained. Conversely, complicated regimens, poor communication, unrealistic expectations, or unpleasant treatment experiences may reduce adherence. Shared decision-making is therefore important because it allows treatment selection to consider disease severity together with patient preference, lifestyle, financial context, and tolerance for inconvenience [17,19].

This issue is directly relevant to quality-of-life assessment because DLQI includes a treatment domain. A patient may show visible improvement but still feel burdened by the treatment routine. Another patient with more severe disease may accept a more intensive treatment if the expected benefit is meaningful. Treatment burden should therefore be considered as a distinct component of psoriasis-related quality-of-life impairment, not merely as a secondary issue after clinical severity [15,20].

2.4. Clinical Severity, DLQI, and Patient-Centered Assessment

DLQI is useful because it asks questions that clinical examination alone cannot answer. While PASI evaluates visible skin inflammation, DLQI evaluates how skin disease affects the patient's life. Its domains include symptoms and feelings, daily activities, leisure, work or school, personal relationships, and treatment. These domains are important because they reflect the areas where psoriasis can become personally meaningful to the patient [20].

The value of DLQI is not that it replaces PASI. Rather, DLQI completes the clinical picture. PASI can show whether the skin is improving, but DLQI can show whether the patient is sleeping better, functioning better, feeling less embarrassed, tolerating treatment, and returning to normal activities. When both tools are used together, clinicians can better distinguish between visible improvement and meaningful improvement from the patient's perspective [5].

This is especially important when PASI and DLQI do not align. A patient with low PASI but high DLQI may have hidden burdens such as severe pruritus, visible lesions, genital involvement, treatment frustration, or psychological distress. A patient with high PASI but lower DLQI may have better coping mechanisms, stronger social support, or different expectations. These situations are clinically important because they show that treatment decisions should not be based only on visible severity [8].

DLQI can also support communication between clinicians and patients. Patients may not always spontaneously report embarrassment, sexual difficulties, social avoidance, treatment dissatisfaction, or emotional distress during a short consultation. A structured quality-of-life questionnaire can help open discussion about these issues and identify areas

that require additional support. In this way, DLQI can function not only as a measurement tool, but also as a communication tool. However, DLQI should also be interpreted carefully. Like any questionnaire, it may be influenced by patient expectations, cultural context, coping style, disease duration, comorbidities, and personal circumstances. DLQI should therefore not be used mechanically, but interpreted together with clinical judgment, patient history, lesion location, treatment context, and patient priorities. Its greatest value lies in helping clinicians see what may otherwise remain invisible [4].

Table. 1 Comparison between PASI and DLQI in psoriasis assessment

Aspect	**PASI**	**DLQI**
Main focus	Visible clinical severity	Patient-perceived life impact
Assessed by	Clinician	Patient
Measures	Erythema, induration, scaling, body surface area	Symptoms, feelings, activities, leisure, work/school, relationships, treatment
Strength	Useful for objective severity and treatment response	Captures hidden burden and daily-life impairment
Limitation	Does not directly assess symptoms, stigma, sleep, or treatment burden	Subjective and influenced by context, expectations, and coping
Best use	Monitoring inflammatory skin disease	Understanding patient burden and supporting communication
Clinical implication	Shows whether plaques improve	Shows whether the patient's life improves

Note: PASI, Psoriasis Area and Severity Index; DLQI, Dermatology Life Quality Index

2.5. Implications for patient-centered psoriasis care

The main implication of evaluating psoriasis beyond skin severity is that treatment goals should be broader than lesion clearance alone. Clearing visible plaques remains important, but successful care should also aim to reduce symptoms, improve sleep, restore confidence, support social and occupational functioning, reduce treatment burden, and improve long-term adherence. This approach is more consistent with the chronic and patient-experienced nature of psoriasis [16,21].

In routine practice, combining PASI with DLQI may help clinicians identify patients whose burden is underestimated by clinical severity alone. For example, a patient with limited but visible lesions may need more attention than the PASI score suggests. A patient with persistent pruritus or sleep disturbance may require symptom-focused intervention even if the plaques appear clinically moderate. A patient struggling with topical application may benefit from treatment simplification or shared decision-making rather than repeated instruction alone [8,22].

Patient-centered assessment may also improve adherence. When treatment plans are selected only according to clinical severity, they may not fit the patient's daily routine, financial situation, preferences, or tolerance for inconvenience. Discussing quality of life and treatment burden allows clinicians to choose therapies that are not only clinically appropriate, but also realistic for the patient to maintain. In chronic psoriasis care, this is essential because long-term outcomes depend not only on treatment efficacy, but also on whether patients can continue the treatment in real life [23,24].

Therefore, PASI and DLQI should be understood as complementary tools. PASI helps clinicians assess the skin, while DLQI helps clinicians understand the patient's burden. Used together, these tools can support shared decision-making, improve communication, identify hidden impairment, and guide more individualized psoriasis management. This does not reduce the importance of clinical severity scoring; rather, it places clinical severity within a broader patient-centered framework [5,21].

Limitations of The Review

This review has several limitations. Because it is a narrative review, the literature was synthesized thematically rather than through a systematic review protocol. No formal risk-of-bias assessment or meta-analysis was performed. Therefore, the findings should be interpreted as a conceptual synthesis of existing literature rather than as quantitative evidence of effect size. Nevertheless, the review highlights clinically relevant dimensions of psoriasis burden that may be missed when assessment relies only on visible skin severity.

3. Conclusion

Psoriasis can impair quality of life in ways that are not fully explained by visible skin severity. PASI remains important for assessing inflammatory activity and monitoring treatment response, but it does not directly capture symptoms, sleep disturbance, stigma, emotional distress, functional limitation, or treatment burden. For this reason, clinical severity and patient-perceived burden should be understood as related but distinct dimensions of psoriasis.

DLQI provides essential complementary information by showing how psoriasis affects daily activities, emotional well-being, relationships, work or school functioning, and treatment experience. Integrating DLQI with PASI may help clinicians identify hidden disease burden and make treatment decisions that better reflect the patient's lived experience. Future psoriasis management should move beyond lesion clearance as the only therapeutic goal and incorporate patient-reported outcomes as part of routine patient-centered care.

Compliance with ethical standards

Acknowledgments

The authors would like to thank all researchers whose published works contributed to the development of this narrative review.

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of ethical approval

The present research work does not contain any studies performed on animals or human subjects by any of the authors.

Statement of informed consent

The present research work does not contain any individual participant data, case reports, surveys, or interviews requiring informed consent.

References

[1] Sieminska I, Pieniawska M, Grzywa TM. The immunology of psoriasis-current concepts in pathogenesis. Clin Rev Allergy Immunol. 2024 Apr;66(2):164-191. doi:10.1007/s12016-024-08991-7.

[2] World Health Organization. Global report on psoriasis [Internet]. Geneva: World Health Organization; 2016 [cited 2026 July 2]. Available from: https://apps.who.int/iris/handle/10665/204417.

[3] Merola JF, Qureshi A, Husni ME. Underdiagnosed and undertreated psoriasis: Nuances of treating psoriasis affecting the scalp, face, intertriginous areas, genitals, hands, feet, and nails. Dermatol Ther. 2018 May;31(3):e12589. doi:10.1111/dth.12589.

[4] Shikiar R, Bresnahan BW, Stone SP, Thompson C, Koo J, Revicki DA. Validity and reliability of patient reported outcomes used in psoriasis: Results from two randomized clinical trials. Health Qual Life Outcomes. 2003 Oct 8;1:53. doi:10.1186/1477-7525-1-53.

[5] Leonardi C, See K, Gallo G, McKean-Matthews M, Zhang Y, Goldblum O, et al. Psoriasis severity assessment combining physician and patient reported outcomes: The Optimal Psoriasis Assessment Tool. Dermatol Ther (Heidelb). 2021 Aug;11(4):1249-1263. doi:10.1007/s13555-021-00544-6.

[6] Mahil SK, Wilson N, Dand N, Reynolds NJ, Griffiths CEM, Emsley R, et al. Psoriasis treat to target: Defining outcomes in psoriasis using data from a real-world, population-based cohort study: The British Association of

Dermatologists Biologics and Immunomodulators Register (BADBIR). Br J Dermatol. 2020 May;182(5):1158-1166. doi:10.1111/bjd.18333.

[7] Puig L, Thom H, Mollon P, Tian H, Ramakrishna GS. Clear or almost clear skin improves the quality of life in patients with moderate-to-severe psoriasis: A systematic review and meta-analysis. J Eur Acad Dermatol Venereol. 2017 Feb;31(2):213-220. doi:10.1111/jdv.14007.

[8] Yang J, Hu K, Li X, Hu J, Tan M, Zhang M, et al. Psoriatic foot involvement is the most significant contributor to the inconsistency between PASI and DLQI: A retrospective study from China. Clin Cosmet Investig Dermatol. 2023 Feb;16:443-451. doi:10.2147/CCID.S396997.

[9] Sacchelli L, Filippi F, Loi C, Clarizio G, Brunetti T, La Placa M, et al. Cutaneous psoriasis and symptoms: Itch, pain, and burning sensation: A monocentric retrospective study on 299 patients in Italy. J Clin Med. 2025 Jun 20;14(13):4388. doi:10.3390/jcm14134388.

[10] Bahali AG, Onsun N, Su O, Ozkaya DB, Dizman D, Topukcu B, et al. The relationship between pruritus and clinical variables in patients with psoriasis. An Bras Dermatol. 2017;92(4):470-473. doi:10.1590/abd1806-4841.20175402.

[11] Jankowiak B, Kowalewska B, Krajewska-Kułak E, Khvorik DF. Stigmatization and quality of life in patients with psoriasis. Dermatol Ther (Heidelb). 2020 Apr;10(2):285-296. doi:10.1007/s13555-020-00363-1.

[12] Blauvelt A, Gondo GC, Bell S, Echeverría C, Schmitt-Egenolf M, Skov L, et al. Psoriasis involving special areas is associated with worse quality of life, depression, and limitations in the ability to participate in social roles and activities. J Psoriasis Psoriatic Arthritis. 2023 Jul;8(3):100-106. doi:10.1177/24755303231160683.

[13] Butacu AI, Toma C, Negulet IE, Manole I, Banica AN, Plesea A, et al. Updates on psoriasis in special areas. J Clin Med. 2024 Dec 11;13(24):7549. doi:10.3390/jcm13247549.

[14] Dopytalska K, Sobolewski P, Błaszczak A, Szymańska E, Walecka I. Psoriasis in special localizations. Reumatologia. 2018;56(6):392-398. doi:10.5114/reum.2018.80718.

[15] Bewley A, Hiribarne L, Galván J, Mburu S. Burden of topical treatments in psoriasis and preferred criteria of choice: A survey-based evaluation of patients in Europe. Dermatol Ther (Heidelb). 2024 Jun;14(6):1497-1514. doi:10.1007/s13555-024-01132-0.

[16] Lebwohl M, Thaçi D, Warren RB. Addressing challenges associated with long-term topical treatment and benefits of proactive management in patients with psoriasis. J Eur Acad Dermatol Venereol. 2021 Feb;35 Suppl 1:35-41. doi:10.1111/jdv.17053.

[17] Thorneloe RJ, Bundy C, Griffiths CEM, Ashcroft DM, Cordingley L. Nonadherence to psoriasis medication as an outcome of limited coping resources and conflicting goals: Findings from a qualitative interview study with people with psoriasis. Br J Dermatol. 2017 Mar;176(3):667-676. doi:10.1111/bjd.15086.

[18] Piragine E, Petri D, Martelli A, Janowska A, Dini V, Romanelli M, et al. Adherence and persistence to biological drugs for psoriasis: Systematic review with meta-analysis. J Clin Med. 2022 Mar 9;11(6):1506. doi:10.3390/jcm11061506.

[19] Bewley A, Burrage DM, Ersser SJ, Hansen M, Ward C. Identifying individual psychosocial and adherence support needs in patients with psoriasis: A multinational two-stage qualitative and quantitative study. J Eur Acad Dermatol Venereol. 2014 Jun;28(6):763-770. doi:10.1111/jdv.12174.

[20] Finlay AY, Khan GK. Dermatology Life Quality Index (DLQI): A simple practical measure for routine clinical use. Clin Exp Dermatol. 1994 May;19(3):210-216. doi:10.1111/j.1365-2230.1994.tb01167.x.

[21] Mrowietz U, Kragballe K, Reich K, Spuls P, Griffiths CEM, Nast A, et al. Definition of treatment goals for moderate to severe psoriasis: A European consensus. Arch Dermatol Res. 2011 Jan;303(1):1-10. doi:10.1007/s00403-010-1080-1.

[22] Strohal R, Prinz JC, Girolomoni G, Nast A. A patient-centred approach to biological treatment decision making for psoriasis: An expert consensus. J Eur Acad Dermatol Venereol. 2015 Dec;29(12):2390-2398. doi:10.1111/jdv.13248.

[23] Santoleri F, Musicco F, Fulgenzio C, Abrate P, Pestrin L, Pasut E, et al. Adherence, persistence and treatment switching in psoriasis. Immunotherapy. 2024;16(9):611-621. doi:10.2217/imt-2023-0343.

[24] Kromer C, Schaarschmidt ML, Schmieder A, Herr R, Goerdt S, Peitsch WK. Patient preferences for treatment of psoriasis with biologicals: A discrete choice experiment. PLoS One. 2015;10(6):e0129120. doi:10.1371/journal.pone.0129120.