https://doi.org/10.46662/jrp.v4i1.184

Living with Psoriasis: A Qualitative Exploration of Psychological and Social Functioning

Aamna Iqbal & Nazish Idrees Chaudhary*
Lahore School of Behavioural Sciences, The University of Lahore, Pakistan

Abstract

Psoriasis is a common chronic inflammatory skin disease with a substantial emotional impact on patients. One in five people with psoriasis have mental health issues. The objective of this study was to explore the psychological and social functioning of individuals with psoriasis. This exploratory qualitative study employed purposive sampling and was conducted at the University of Lahore, Lahore, from March to May 2024. We conducted semi-structured interviews of individuals with psoriasis with the age range of 18-40. It included five men and one female. The method of thematic analysis was employed and NVivo 14 software was used for the interpretation of results. A total of 142 codes and 10 sub-themes were identified. Four major themes were emerged from the interview transcripts, which were (i) Medical Impact, (ii) Self-Concept, (iii) Interpersonal Dynamics, and (iv) Coping Mechanisms. Within each of these major themes, a collection of ten sub-themes emerged “Physical symptoms and issues”, “Chronic and lifelong nature”, “Medication and treatment”, “Emotional impact”, “Self-perception and identity”, “Impact on relationships”, “Impact on social life”, “Environmental triggers and behaviors”, “Information seeking and awareness”, and “Coping strategies”. Our research indicates that clinicians should increase their awareness of the psychological and social difficulties associated with psoriasis to improve patient care. This study will help medical personnel center their attention on meeting the comprehensive needs of psoriasis patients, offering care that revolves around the individuals.

Keywords: skin disease, mental health, medical impact, coping mechanisms, interpersonal dynamics

Introduction

Psoriasis, a common chronic inflammatory skin disorder, has a considerable impact on patients' emotional health. It affects approximately 2-4% of the global population (Dai et al., 2025). Excessive immune system activity triggers rapid multiplication of skin cells, resulting in scaly, inflamed patches on the skin. These patches typically manifest on areas like the scalp, elbows, or knees, though they can occur elsewhere on the body. Although the precise cause of psoriasis remains uncertain, researchers suggest it arises from a mix of genetic and environmental influence (National Institute of Arthritis and Musculoskeletal and Skin Diseases [NIAMS], 2023). Overall, 0.28% population of Pakistan suffers from psoriasis, 0.36% of which are adults and 0.04% are children. In Pakistan, the frequency of psoriasis is higher among men under the age of 40 (Sultan et al., 2020). The physical and psychological effects of psoriasis significantly hinder various aspects of patient functioning. Moreover, patients with psoriasis experience a higher prevalence of depression and anxiety compared to the general population,

*Correspondence concerning this article should be addressed to Nazish Idrees Chaudhary,
Lahore School of Behavioural Sciences, the University of Lahore, Pakistan.
Email: nazish.idrees@lsbs.uol.edu.pk

Copyright License: This work is licensed under Creative Commons Attribution 4.0 International License (http://creativecommons. org/licenses/by/4.0/)

and their quality of life is notably lower than that of individuals with other dermatological condition (Torales et al., 2020).

Anxiety and sadness, suicidal thoughts, and drug abuse are all prominent psychosocial comorbidities of psoriasis (Blackstone et al., 2022). Controlling common triggers, such as stress and skin injuries, can also help alleviate symptoms (National Psoriasis Foundation, n.d.). Worrying about psoriasis, particularly how others see you, can activate the stress system, including the amygdala. Several neuro immunological investigations suggest a link between depression and psoriasis. Melatonin has also been linked to both illnesses. Because of the apparent bidirectional association between psoriasis and serious depression, both disorders have the potential to cause each other (Sahi et al., 2020). Psoriasis patients had a higher prevalence of schizophrenia (2.82%) and suicidal thoughts (12.7%) compared to the general population. (Hedemann et al., 2022). Individuals with psoriasis may encounter challenges such as anxiety, depression, social difficulties, and avoidance. It is imperative for physicians to prioritize the mental health of patients with psoriasis as it may deteriorate over time (Zhang et al., 2017). A significant proportion of individuals, ranging from 31% to 88%, report that stress triggers their psoriasis. Moreover, there is evidence suggesting a higher prevalence of psoriasis among those who have experienced stressful events in the preceding year, indicating that stress may contribute to the onset of the condition in predisposed individuals (Rousset & Halioua, 2018). Addressing the interplay between skin health and psychological factors can pave the way for a multidisciplinary approach to treating psoriasis patients, focusing on personalized care and more effective treatment strategies (Rigas et al., 2019). Those affected by psoriasis are highly sensitive to and concerned about how others perceive them, often encountering stigmatizing attitudes and behaviors (Bagasi et al., 2025). Exploring psychological and social functioning can reduce stigma by highlighting the emotional toll of the condition. Understanding the psychological and social functioning associated with psoriasis is crucial for providing holistic patient care. Recognizing these effects is essential for developing more comprehensive treatment strategies (Luna et al., 2023). Therefore, the objectives of this study were to explore the psychological functioning of individuals with psoriasis and o examine the experiences of individuals with psoriasis in social context.

Research Questions

1. How does living with psoriasis affect one's mental health?
2. What are the experiences of individuals with psoriasis in different social contexts?

Methods

Research Design

A qualitative exploratory research design was employed.

Sample and Sampling Strategy

The method of purposive sampling was used to select the individuals living with psoriasis. Purposive sampling is beneficial because it ensures the selection of participants with specific qualities relevant to the study, allowing for the collection of precise and useful data. The method of thematic analysis was employed for the identification of themes. Thematic

analysis is an approach which is used to identify analyze and report themes within data (Braun & Clarke, 2006).

Inclusion Criteria

Individuals with the age range of 18-40 years with the diagnosis of 2 years or less and actively seeking treatment for their psoriasis were included.

Exclusion Criteria

Participants with severe coexisting medical or mental conditions that significantly impact their psychological well-being were excluded. Six participants (5 men, 1 woman) were interviewed in depth using semi-structured and open-ended questions. The gender imbalance in our study can be contributed to the fact that men were more willing to participate as compared to the women. In Pakistani cultural context, women show some hesitancy when speaking about visible skin conditions like psoriasis.

Procedure

Thematic analysis was used to categorize all data into relevant codes, sub-themes and major themes. To help with data arrangement and visualization, NVivo 14, a qualitative data analysis program, was used. Each participant gave informed permission, indicating that they were fully aware of the study's goal, their rights, the voluntary nature of their participation, and the confidentiality of their information. Participants were approached in clinical settings where they were getting care, and interviews were planned and carried out at their leisure to reduce interruption. With the participants' permission, these interviews were recorded and then transcribed for analysis. At the conclusion of each interview, participants were thanked for their cooperation and participation to the research. Ethical deliberations were kept in mind and maintained before, during and after completion of this research. Permission was obtained from the concerned authorities. Consent was sought from the participant and the participants were debriefed about the goal of the study. The participants were given the right to leave the study at any moment they feel uncomfortable. The data and information gathered from participants will be kept confidential. Participants were assured that their responses would be used solely for academic purposes. Correct representation of the results was ensured.

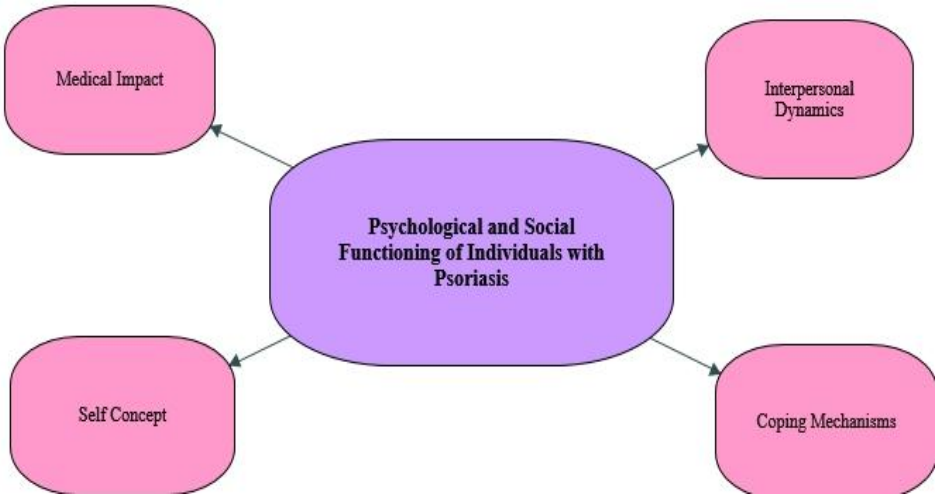
Results

A total of six comprehensive interviews were conducted. Five of the participants were men and one participant was woman. All of the participants were currently seeking treatment for their psoriasis. The process began with familiarization, where the data was read and reread data to gain deeper understanding, taking original notes and reviewing them. The next step was generating initial codes, which captured the key features of the data across the entire system and aggregated the data for each code. This was followed by generating themes through collating codes and data to identify broad patterns. Codes were grouped into possible topics with all relevant information per topic. Reviewing themes involved refining those themes to see if they work in relation to the text and the overall data set, and creating a mind map to show the relationships between the themes. Defining and naming the theme was the next step. Each theme was further developed and categorized. The last step was reporting. This involved completing the analysis and creating a coherent, logical and coherent account of data supported by strong examples. The analysis was then related to the research questions and existing literature. By following these steps, it was ensured that qualitative data is analyzed

comprehensively and transparently, resulting in meaningful and reliable insights. The thematic analysis generated 142 codes which were then organized into 10 sub-themes and four major themes. The major-themes introduced in this chapter are “Medical Impact”, “Self-Concept”, “Interpersonal Dynamics” and “Coping Mechanisms”. Major themes are given in the figure below. (Figure 1)

Figure 1

Hierarchy of Identified Master Themes of Individuals with Psoriasis after Thematic Analysis in Nvivo14.



Within each of these major themes, a collection of sub-themes emerged: “Physical symptoms and issues”, “Chronic and lifelong nature”, “Medication and treatment”, “Emotional impact”, “Self-Perception and identity”, “ Impact on relationships”, “Impact on social life”, “Environmental triggers and behaviors”, “Information seeking and awareness” and “Coping strategies” (Table 1)

Table 1

Major Themes and Sub-Themes Along with Their Relevant Codes

Major Themes	Sub-Themes	Relevant Codes
Medical Impact	Physical symptoms and issues	1. Burning sensation 2. Dandruff 3. Discomfort 4. Foot issues 5. Hair loss 6. Inflammation 7. Itchiness 8. Pain 9. Physical manifestation 10. Scaling 11. Scarring

		12. Skin shedding 13. Sleep disturbance
	Chronic and lifelong nature	1. Chronic disease 2. Comorbidity risk 3. Family experience 4. Genetics 5. Incurable 6. Inheritance 7. Permanent issue 8. Rarity of disease 9. Severity
	Medication and treatment	1. Allergic reaction 2. Delayed treatment 3. Neglect 4. Fear of treatment 5. Lifelong medication 6. Medical advice 7. Medical negligence 8. Misdiagnosis 9. Self-medication 10. Supplementation
Self- Concept	Emotional Impact	1. Panic attacks 2. Health anxiety 3. Fear of stigma 4. Embarrassment 5. Desire for relief 6. Desire for cure 7. Hopelessness 8. Misfortune 9. Anxiety 10. Extreme reaction 11. Distress about progression 12. Anger 13. Hope 14. Apprehension 15. Low self esteem 16. Fear of judgement 17. Confusion 18. Overthinking 19. Uncertainty 20. Helplessness 21. Vulnerability

		22. Mental suffocation 23. Frustration with doctor 24. Disbelief 25. Disgust 26. Fear of infection 27. Emotional protection 28. Daily life challenge 29. Shock 30. Frustration 31. Feeling unlucky 32. Fear of spread 33. Fear of amputation 34. Fear of worst happening 35. Self-hatred
	Self-perception and Identity	1. Self-image 2. Optimism 3. Aesthetics 4. Insecurity 5. Gratitude 6. Resilience 7. Privacy 8. Appearance concerns 9. Low confidence 10. Feelings of inadequacy 11. Annoyance 12. Identity disturbance 13. Health consciousness 14. Appearance maintenance 15. Cosmetic issue 16. Hygiene consciousness
Interpersonal Dynamics	Impact on Social Life	1. Avoidance 2. Impact on work 3. Isolation 4. Impact on daily life 5. Being excluded 6. Social avoidance 7. Public embarrassment 8. Discrimination 9. Communication difficulty 10. Social support 11. Visibility of symptoms 12. Social withdrawal 13. Unwanted attention

		14. Low social security
		15. Pressure for hygiene
		16. Hiding diagnosis
		17. Unsolicited advice
		18. Social anxiety
		19. Negative social interaction
		20. Solitude
		21. Stigmatization
		22. Work commitment
		23. Stereotypical remarks
		24. Negative comparison
	Impact on Relationships	1. Emotional support
		2. Spousal attention
		3. Family support
		4. Self-reliance
		5. Fear of rejection
		6. Impact on intimacy
		7. Fear of intimacy
Coping Mechanisms	Environmental and behavioral triggers	1. Seasonal affect
		2. Environmental trigger
		3. Smoking effect
	Information seeking and awareness	1. Seeking information
		2. Self-research
		3. Awareness about disease
		4. Misinterpretation
		5. Rarity of disease
		6. Googling symptoms
		7. Curiosity
		8. Lack of awareness
	Coping strategies	1. Lifelong management
		2. Adaptation
		3. Acceptance
		4. Persistence
		5. Control
		6. Concealment
		7. Preventive measures
		8. Expert advice
		9. Management of symptoms
		10. Extensive Skin care
		11. Resignation
		12. Hygiene routine
		13. Normalization
		14. Pain management

	15. Seeking help 16. Self-diagnosis 17. Self-education about medicine

Medical Impact

This theme explores deep into profound physical symptoms or issues, the chronic and long-term nature along with medication and treatment of psoriasis revealing the psychological and social impact these individuals go through. One participant stated, *"Sometimes the inflammations leave scarring on my skin. These scars sometimes heal on their own. Other times, they do not heal completely and they leave dark marks on my skin"*. Here, the participant is describing their experience with skin inflammation, which results in scars that do not fully heal and leave dark marks on the skin, indicating the theme of physical issues, scarring, and inflammation.

Self-Concept

It emerged as a second theme shedding light on the profound impact of psoriasis and its complications on emotions, self-perception and identity. This theme highlights issues of emotional and mental health challenges individuals have to face, as well as how this disease affects their self-perception and identity. One participant stated *"Yes my psoriasis has affected my self-esteem and confidence a lot. If it's uncovered, I try to hide my area of exposure. So that people do not ask me about it".* This behavior suggests a sense of embarrassment or discomfort about their skin condition and reflects efforts to manage how others perceive them.

Interpersonal Dynamics

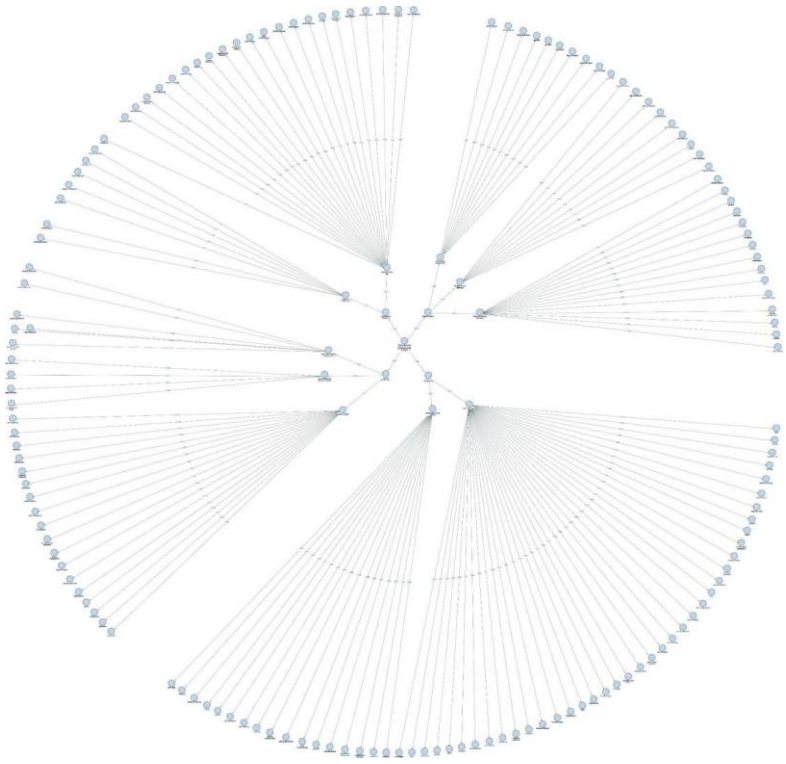
The third major theme of our study that emerged is "Interpersonal Dynamics" shedding light on the significant impact of living with psoriasis on the interpersonal relationships and the disease's impact on the social life as well. One participant stated, *"One time, a barber refused to touch my hair and said that I am not going to cut your hair, go and wash it, it looks like a contagious disease. He also said that my disease will also affect his other clients so I should just leave".* The barber's refusal and statement imply a lack of understanding about psoriasis and its transmission, as well as a stigmatizing attitude towards the participant.

Coping Mechanisms

The last and fourth major theme that emerged in our study is "Coping Mechanisms". Coping mechanisms consists of all coping strategies and measures individuals with psoriasis adapt in order to manage the symptoms of this disease as much as possible. One participant stated, *"I also use a medicated shampoo every morning and evening so that it appears as less as possible. I would always make myself mentally prepared before going out. If I go on trips, I am extra careful with my hygiene and using shampoo."* This statement reflects the participant's dedication to managing their condition effectively and adapting their routine to accommodate it in various situation.

Figure 2

Codes Emerged from the Interviews of Individuals with Psoriasis with Thematic Analysis in Nvivo14.



Discussion

The research revealed a number of themes that highlighted the complex difficulties individuals with psoriasis face, as well as the impact on their psychological and social functioning that comes with living with this chronic skin disease. Through the analysis of six comprehensive interviews, it became evident that psychological and social functioning emerged as a recurrent and significant element in each discussion. Globe et al.'s (2009) disease model of psoriasis supports our study's results. Their models explains that certain factors such as environment and behavior trigger psoriasis. In our study, participants reported that cold, sun winters, smoking aggravate the skin inflammation and itching. Their model also explains the physical symptoms such as itchiness, pain, burning, sensitivity, scaling, dry skin and redness. All six participants in our study also reported experiencing these physical symptoms. Furthermore, their model also lists out the impact of psoriasis on daily activities, its emotional impact, sleep disturbance, self-perception and impact on social life. Our findings also contain these themes as explained by the disease model of psoriasis.

The first major theme of our study was medical impact, which entails the physical complications that comes with psoriasis such as pain, scaling, inflammation, scarring, redness and many other physical issues. It also entails the chronic nature of disease along with the lifelong medication and treatment the individuals with psoriasis have to maintain throughout their life. The results of this theme highlight the significant psychological functioning of individuals with psoriasis. Psoriasis-related itching, rather than pain, significantly links to

insomnia and sleep quality among patients, highlighting its importance as a key subjective symptom in these chronic inflammatory skin conditions (Kaaz et al., 2018). Patients with moderate-to-severe psoriasis and psoriatic arthritis have experienced a notable reduction in lifespan, especially among younger individuals. These findings offer a dependable assessment of the lifelong impact of psoriasis on patients' overall health (Chiu et al., 2023).

The second major theme of our study was self-concept, which entails the profound emotional impact and the self-perception and self-identity of individuals with psoriasis. Shame has been identified as a component of psychosocial distress among psoriasis patients. Increased levels of skin-related shame are associated with greater disease burden and decreased mental quality of life. Self-esteem and stigma play important roles in how psoriasis affects patients' lives. Individuals with psoriasis can face serious psychological and social challenges and not just the physical issues (Homayoon et al., 2020). The third major theme of our study was interpersonal dynamics, which entails the profound impact of relationships and social life on individuals living with psoriasis. Individuals with psoriasis unfortunately do have to face stigma. Stigmatization is a social issue. Better awareness is needed for more acceptance of this disease. Offering psychological counseling to individuals with psoriasis can assist them in dealing with stigma and, consequently, enhance their quality of life (Jankowiak et al., 2020). Among patients with mild psoriasis, those exhibiting emotion dysregulation and social anxiety traits experienced notably reduced levels of quality of life. Variations in emotion regulation and social anxiety traits play a role in health-related quality of life, independent of the severity of the illness. Research indicated that individuals with psoriasis commonly experience issues such as low self-esteem, pain or discomfort, and restrictions in daily and social activities. Psoriasis significantly reduces quality of life, with disease severity being linked to poorer quality of life (Fino et al., 2021).

Various aspects, including sexual function, work productivity, financial burden, and social interactions, are extensively explored in studies and have been found to be significantly affected by psoriasis (Rahman et al., 2020). The fourth major theme of our study was coping mechanisms, which highlighted the environmental and behavioral triggers, coping strategies and as well as information seeking and awareness. Healthcare professionals teaching about psoriasis is really important for helping patients understand the condition better and increase their literacy. Patients might need to learn about psoriasis more than once and in different ways to become good at managing it themselves (Larsen et al., 2019). Medication has a big impact on how much people know about psoriasis. Education and how long someone has had psoriasis also affect how they feel about it. Knowing more about psoriasis and taking medication help people manage it better, but how they feel about it and how long they've had it can make it harder to manage (Tian et al., 2012).

Conclusion

Beyond personal experiences, psoriasis affects relationships, physical health, daily functioning, and social life. Individuals with psoriasis often face stigma, social isolation, and emotional distress, impacting their overall well-being. The chronic nature of psoriasis can lead to comorbid health issues and interfere with daily activities.

Limitations

The study faced challenges in recruiting participants with extremely severe cases of psoriasis.

- Most cases in this study were mild to moderate.
- The study also contained only six participants which reduces the generalizability of the findings to the broader Pakistani culture.
- The study also encountered limitations in gender representation due to recruitment difficulties and reluctance of female participants to partake in this study.

Implications

These findings emphasize the importance of providing holistic care, encompassing medical treatment, psychological support, and counseling, to improve the quality of life for individuals with psoriasis.

Author Declarations

This work is from student thesis as first author for her postgraduation requirement (MS Clinical Psychology) under the supervision of second author. We declare that this is her original work and properly cited with authentic data and analysis procedure.

Conflict of Interest

The authors declare that there is no conflict of interest.

Funding

No grant was received for this research.

Acknowledgements

We are grateful to all the participants and institutions that cooperated in data collection especially Department of Dermatology, The Teaching Hospital at The University of Lahore.

References

Blackstone, B., Patel, R., & Bewley, A. (2022). Assessing and improving psychological well-being in psoriasis: Considerations for the clinician. *Psoriasis: Targets and Therapy, 12*, 25–33. https://doi.org/10.2147/PTT.S328447

Bagasi, F. A., Alzahrani, R. S., Alahmadi, R. F., Alnashri, R. O., Alharbi, A. A., & Khoshhal, S. Q. (2025). Stigmatizing attitudes toward persons with psoriasis in the western region of Saudi Arabia. *Cureus, 17*(10), e93946. https://doi.org/10.7759/cureus.93946

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Chiu, H.-Y., Lan, J.-L., & Chiu, Y.-M. (2023). Lifetime risk, life expectancy, loss-of-life expectancy, and lifetime healthcare expenditures for psoriasis in Taiwan: A nationwide cohort followed from 2000 to 2017. *Therapeutic Advances in Chronic Disease, 14*, 1–12. https://doi.org/10.1177/20406223231168488

Dai, M., Jiang, Y., & Shi, Y. (2025). 2023 年至 2024 年银屑病诊治进展 [Progress in diagnosis and treatment of psoriasis from 2023 to 2024]. *诊断学理论与实践 [Journal of Diagnostics Concepts & Practice]*, 24(6), 593–604. https://doi.org/10.16150/j.1671-2870.2025.06.004

Fino, E., Russo, P. M., Tengattini, V., Bardazzi, F., Patrizi, A., & Martoni, M. (2021). Individual differences in emotion dysregulation and social anxiety discriminate between high vs. low quality of life in patients with mild psoriasis. *Journal of Personalized Medicine, 11*(11), 1236. https://doi.org/10.3390/jpm11111236

Globe, D., Bayliss, M. S., & Harrison, D. J. (2009). The impact of itch symptoms in psoriasis: Results from physician interviews and patient focus groups. *Health and Quality of Life Outcomes, 7*, 62. https://doi.org/10.1186/1477-7525-7-62

Hedemann, T. L., Liu, X., Kang, C. N., & Husain, M. I. (2022). Associations between psoriasis and mental illness: An update for clinicians. *General Hospital Psychiatry, 75*, 30–37. https://doi.org/10.1016/j.genhosppsych.2022.01.006

Homayoon, D., Hiebler-Ragger, M., Zenker, M., Weger, W., Unterrainer, H., & Aberer, E. (2020). Relationship between skin shame, psychological distress and quality of life in patients with psoriasis: A pilot study. *Acta Dermato-Venereologica, 100*(14), 1–6. https://doi.org/10.2340/00015555-3563

Jankowiak, B., Kowalewska, B., Krajewska-Kułak, E., & Khvorik, D. F. (2020). Stigmatization and quality of life in patients with psoriasis. *Dermatology and Therapy, 10*, 285–296. https://doi.org/10.1007/s13555-020-00363-1

Kaaz, K., Szepietowski, J. C., & Matusiak, Ł. (2018). Influence of itch and pain on sleep quality in atopic dermatitis and psoriasis. *Acta Dermato-Venereologica, 99*(2), 175–180. https://doi.org/10.2340/00015555-3065

Larsen, M. H., Strumse, Y. S., Andersen, M. H., Borge, C. R., & Wahl, A. K. (2019). Associations between disease education, self-management support, and health literacy in psoriasis. *Journal of Dermatological Treatment, 32*(6), 603–609. https://doi.org/10.1080/09546634.2019.1688233

Luna, P. C., Chu, C. Y., Fatani, M., Borlenghi, C., Adora, A., Llamado, L. Q., & Wee, J. (2023). Psychosocial Burden of Psoriasis: A Systematic Literature Review of Depression Among Patients with Psoriasis. *Dermatology and therapy*, *13*(12), 3043–3055. https://doi.org/10.1007/s13555-023-01060-5

National Institute of Arthritis and Musculoskeletal and Skin Diseases. (2023, October). *Psoriasis*. U.S. Department of Health and Human Services. https://www.niams.nih.gov/health-topics/psoriasis

National Psoriasis Foundation. (n.d.). *Psoriasis*. https://www.psoriasis.org/

Rahman, S., Uddin, N., Aman, S., Sultan, N., Butt, G., Rahman, A., & Ahmad, A. (2020). A systematic literature review on quality of life in adult patients with psoriasis. *Journal of Pakistan Association of Dermatologists, 30*(2), 336–348. https://www.jpad.com.pk/index.php/jpad/article/view/1474

Rigas, H. M., Bucur, S., Ciurduc, D. M., Nita, I. E., & Constantin, M. M. (2019). Psychological stress and depression in psoriasis patients: A dermatologist's perspective. *Maedica, 14*(3), 287–291. https://doi.org/10.26574/maedica.2019.14.3.287

Rousset, L., & Halioua, B. (2018). Stress and psoriasis. *International Journal of Dermatology, 57*(10), 1165–1172. https://doi.org/10.1111/ijd.14032

Sahi, F. M., Masood, A., Danawar, N. A., Mekaiel, A., & Malik, B. H. (2020). Association between psoriasis and depression: A traditional review. *Cureus, 12*(8), e9708. https://doi.org/10.7759/cureus.9708

Sultan, N., Chaudhry, A. A., Rehman, S., Butt, G., Aman, S., Shaukat, S., Fatima, M., & Omer, S. (2020). Frequency of psoriatic arthritis in patients of psoriasis presenting to Dermatology Department, Mayo Hospital, Lahore. *Journal of Pakistan Association of Dermatologists, 30*(2), 331–335. https://jpad.com.pk/index.php/jpad/article/view/1531

Tian, S., Krueger, J. G., Li, K., Jabbari, A., Brodmerkel, C., Lowes, M. A., & Suárez-Fariñas, M. (2012). Meta-analysis derived (MAD) transcriptome of psoriasis defines the "core" pathogenesis of disease. *PLoS ONE, 7*(9), e44274. https://doi.org/10.1371/journal.pone.0044274

Torales, J., Echeverría, C., Barrios, I., García, O., O'Higgins, M., Castaldelli-Maia, J. M., Ventriglio, A., & Jafferany, M. (2020). Psychodermatological mechanisms of psoriasis. *Dermatologic Therapy, 33*(6), e13827. https://doi.org/10.1111/dth.13827

Zhang, J., Tsai, T.-F., Lee, M.-G., Zheng, M., Wang, G., Jin, H., Gu, J., Li, R., Liu, Q., Chen, J., Tu, C., Qi, C., Zhu, H., Ports, W. C., & Crook, T. (2017). The efficacy and safety of tofacitinib in Asian patients with moderate to severe chronic plaque psoriasis: A phase 3, randomized, double-blind, placebo-controlled study. *Journal of Dermatological Science, 88*(1), 36–45. https://doi.org/10.1016/j.jdermsci.2017.05.004