Original Research

COGNITIVE IMPAIRMENTS IN PATIENTS WITH PSORIASIS: A CROSS-SECTIONAL STUDY

Dr. Ananya Thukral[1*], Dr. Debasish Padhi[2], Dr. Priyanka Shukla[3]
[1*]Junior Resident II[nd,] Rama Medical College, Hospital and Research Centre, Kanpur.
[2]Associate Professor, Rama Medical College, Hospital and Research Centre, Kanpur.
[3]Associate Professor, Department of Clinical Psychology, CSJM University, Kanpur.
Email: [1*]ananyathukral96@gmail.com, [2]debasishpadhi@gma
[3]priyankaravpadhi@gmail.com
Corresponding Author: Dr. Ananya Thukral
Junior Resident II[nd,] Rama Medical College, Hospital and Research Centre, Kanpur.

ABSTRACT

Background: Psoriasis is a chronic inflammatory skin disorder that has been increasingly associated with cognitive dysfunction. However, the prevalence of mild cognitive impairment (MCI) in psoriasis patients remains underexplored. This study aims to assess the presence of MCI in individuals with psoriasis using the Montreal Cognitive Assessment (MoCA) and examine its correlation with disease severity.

Objectives: To evaluate the presence of mild cognitive impairment in patients with psoriasis and compare it with healthy controls using the Montreal Cognitive Assessment (MoCA) scale.

Methods: A cross-sectional study was conducted on 50 patients diagnosed with psoriasis and 50 age- and sex-matched healthy controls. Cognitive function was evaluated using the Montreal Cognitive Assessment (MoCA), with a cutoff score of **<26** indicating mild cognitive impairment (MCI). Disease severity in psoriasis patients was assessed using the Psoriasis Area and Severity Index (PASI). Statistical analyses, including Pearson's correlation, Chi-square tests, and multiple regression models, were performed to determine the association between psoriasis severity and cognitive impairment.

Results: The mean MoCA score was 24.31 ± 3.1 in the psoriasis group and 26.8 ± 2.5 in the control group (p value 0.002). Statistically significant differences were observed in the visuospatial abilities, executive functioning, and orientation domains.

Conclusion: This study highlights a high prevalence of mild cognitive impairment in psoriasis patients, with disease severity being a key contributing factor. These findings emphasize the importance of cognitive screening using MoCA in psoriasis management. Further research is warranted to explore the underlying mechanisms and potential interventions for cognitive impairment in psoriasis.

INTRODUCTION

Psoriasis is a chronic, immune-mediated inflammatory dermatosis characterized by erythematous, scaly plaques predominantly affecting the scalp, elbows, knees, and lower back. It results from dysregulated immune activation, primarily involving hyperactive T-cells, leading to accelerated keratinocyte proliferation and cutaneous inflammation. The disease is multifactorial, influenced by genetic predisposition, environmental triggers, and immune dysfunction. Psoriasis exhibits variable severity, ranging from localized lesions to widespread systemic involvement. In India, its prevalence varies across regions and demographic groups, reflecting genetic and environmental heterogeneity.

www.ajmrhs.com
eISSN: 2583-7761

Date of Received: 25-04-2026
Date Acceptance: 02-05-2026
Date of Publication: 04-06-2026

Studies indicate that the incidence among skin patients ranges from **0.44% to 2.8%**, with an overall average of approximately **1.02%.** Psoriasis is a systemic inflammatory disorder associated with metabolic syndrome, cardiovascular diseases, and autoimmune conditions. Chronic inflammation, driven by pro-inflammatory cytokines (TNF-α, IL-6, IL-17), contributes to insulin resistance, dyslipidemia, hypertension, and increased cardiovascular risk. Psoriatic patients exhibit a higher prevalence of type 2 diabetes and vascular dysfunction, linking psoriasis to broader metabolic and immune dysregulation.

Beyond its physical symptoms, psoriasis is associated with a range of psychiatric disorders, including depression, anxiety, and suicidal ideation. Psoriasis patients are more likely to experience depressive symptoms and anxiety compared to individuals without psoriasis. Research indicates that individuals with psoriasis have a 1.5 times greater likelihood of exhibiting depressive symptoms and a higher occurrence of anxiety

symptoms, with prevalence rates ranging from 20% to 50%.

Mohapatra et al., 2020 found Psoriasis is increasingly recognized for its significant psychiatric comorbidities, including depression, anxiety, and suicidal ideation. The disease not only impacts physical health but also affects mental well-being due to its visible symptoms, social stigma, and chronic nature. The study, conducted in Eastern India, included 48 psoriasis patients and 48 healthy controls. Psychiatric morbidity was significantly higher in psoriasis patients (62.5% vs. 18.5%). Common psychiatric issues included anger, discomfort, social problems, and depression. The study highlights the significant psychological burden of psoriasis, particularly in this regional demographic, emphasizing the need for integrated dermatological and mental health care. A cross-sectional study by Lakshmy et al. (2015) at a tertiary care hospital in Puducherry, India, assessed 90 psoriasis patients . The study found high psychiatric comorbidity, with 78.9% experiencing depression, 76.7% anxiety, and 72.2% both conditions, along with a significant correlation between psoriasis severity and psychological distress.

Cognitive function encompasses a broad range of mental abilities, including attention, memory, executive function, language processing, and problem-solving. These functions are essential for acquiring knowledge, adapting to new information, and performing daily tasks. Cognitive impairment occurs when these abilities decline beyond what is expected for normal aging, affecting an individual's ability to process, recall, and utilize information. While cognitive decline is often associated with neurodegenerative conditions such as Alzheimer's disease, increasing evidence suggests that chronic systemic inflammation plays a critical role in the onset and progression of cognitive dysfunction (Kowalski et al., 2022). Emerging research has linked inflammatory disorders such as psoriasis to impairments in cognition, suggesting that immune-mediated mechanisms may contribute to neurological dysfunction (Kowalski et al., 2022; Schäfer et al., 2017; Łakuta et al., 2017). Studies indicate that psoriasis patients exhibit a higher prevalence of mild cognitive impairment (MCI) compared to healthy individuals, with deficits observed in memory, executive function, and attention (Schäfer et al., 2017; Łakuta et al., 2017). A systematic review conducted by Pankowski et al. (2022) examined cognitive dysfunction in psoriasis patients and analyzed data from 11 studies comprising 971 psoriasis patients and 10,242 control participants. The findings revealed significant cognitive deficits in several domains, including working memory, executive function, long-term verbal memory, attention, and visuospatial abilities. Working memory impairments were observed in patients who struggled to retain and manipulate information, while deficits in executive function affected their ability to plan, organize, and multitask. Additionally, reduced attention span and difficulties in visuospatial processing were common. The prevalence of cognitive impairment among psoriasis patients varied widely, ranging from 0% to 91.9%, reflecting differences in study methodologies and patient demographics. Research indicates that psoriasis patients may exhibit precocious impairments of cognitive functions, including long-term verbal memory, executive functions, and attention, configuring a multiple domain mild cognitive impairment (MCI). This puts them at a greater risk of developing dementia. One study found that psoriasis patients scored lower in neuropsychological tests assessing memory and executive functions compared to healthy subjects. Cognitive functions were significantly worse in patients than in the healthy controls for the total score of Montreal Cognitive Assessment-Basic (MoCA-B) ($p < 0.001$), abstraction ($p < 0.001$), delayed recall ($p < 0.001$), visuospatial abilities ($p = 0.013$), naming ($p = 0.029$) and attention ($p < 0.001$) Psoriasis patients showed worse cognitive impairment when compared to the controls regardless of the psoriasis severity. Thus, the routine clinical examination of psoriasis patients should include the administration of a brief cognitive screening tool to reach the best management. It is estimated that an MCI is present in 44% of patients with psoriasis and psoriatic arthritis, with predominantly altered cognitive domains being long-term memory. A study assessing cognitive function in 41 psoriatic patients and 37 controls found mild cognitive impairment (MCI) in 44% of patients versus 11% of controls ($p = 0.002$). Psoriatic patients exhibited deficits in long-term verbal memory, working memory, cognitive flexibility, and executive functio. A study assessing cognitive function using the Montreal Cognitive Assessment (MoCA) in 77 psoriasis patients and 83 controls found significantly lower MoCA scores in the psoriasis group ($p = 0.004$). Cognitive deficits were observed in visuospatial abilities ($p = 0.037$) and executive functioning ($p = 0.010$). Psoriasis is associated with significant cognitive impairment, particularly in attention, concentration, and overall cognitive function, as assessed by SMMSE and BCRS. A study involving 200 subjects found that cognitive deficits were more pronounced in individuals with increasing age, lower education levels, rural residence, and unskilled occupations. Longer disease duration and psoriatic arthritis were also linked to greater cognitive decline. These findings suggest that psoriasis-related inflammation and disease burden may contribute to deficits in memory, executive function, and orientation, highlighting the need for early cognitive assessment in psoriatic patients.[8]

METHODOLOGY

In this prospective cross-sectional study conducted for 6 months we enrolled 50 consecutive patients diagnosed with psoriasis vulgaris from the Dermatology outpatient clinic at Rama Medical College, Kanpur, India. An equal number of age- and sex-matched healthy controls (n=50) were also included. The study participants were aged between 18 and 60 years.

We excluded individuals with malignancies; chronic renal, hepatic, or cardiovascular diseases; thyroid disorders; neurological diseases; a history of dementia; or known psychiatric disorders. Patients using any psychotropic drugs, pregnant individuals, morbidly obese individuals, current smokers, and those consuming alcohol were also excluded. To further ensure the exclusion of psychiatric comorbidities, all participants completed the General Health Questionnaire (GHQ-28), and those who scored above the threshold indicating psychiatric distress were removed from the study pool.Baseline sociodemographic and clinical data were collected for all participants. This included age, sex, comorbid conditions (diabetes mellitus and/or hypertension), marital status (single, married, or divorced), educational level (illiterate, primary school, secondary school, high school, or university), and area of residence (village, town, or city).

The study protocol was approved by the Institutional Ethics Committee of Rama Medical College, Kanpur. Written informed consent was obtained from all participants before their inclusion in the study.

A dermatologist conducted physical examinations and confirmed psoriasis vulgaris through clinical and/or histopathological findings. All enrolled patients had chronic plaque-type psoriasis vulgaris. We recorded whether the psoriasis affected visible areas, such as the scalp, face, or hands, indicating cosmetic involvement. The severity of psoriasis was assessed using the Psoriasis Area and Severity Index (PASI) score. A PASI score <10 was classified as mild psoriasis, while a score ≥10 indicated moderate to severe disease.

We assessed cognitive function using the Montreal Cognitive Assessment (MoCA). The MoCA score ranged from 0 to 30, with a score <26 indicating mild cognitive impairment. The following six cognitive domains were assessed:

Visuospatial Abilities: A clock-drawing task (3 points) and a three-dimensional cube copy (1 point).**Short-Term Memory:** A recall task (5 points) involving two learning trials of five nouns and delayed recall after approximately 5 minutes. **Executive Functioning:** An alternation task adapted from the Trail Making B task (1 point), a phonemic fluency task (1 point), and a two-item verbal abstraction task (2 points).**Sustained Attention, Concentration, and Working Memory:** A target detection tapping task (1 point), a serial subtraction task (3 points), and digits forward and backward (1 point each).**Language Abilities:** A three-item confrontation naming task with low-familiarity animals (lion, camel, rhinoceros; 3 points), repetition of two syntactically complex sentences (2 points), and the fluency task mentioned above. **Orientation:** Time and place (6 points).

RESULTS

The sociodemographic characteristics of participants in both the control and psoriasis groups. The mean age of the control group was **42.1 ± 10.5 years**, while that of the psoriasis group was **41.3 ± 9.8 years**, with no statistically significant difference between the two groups (**p = 0.412**, independent samples t-test). Marital status also showed no significant differences (**p = 0.522**), with the majority of participants in both groups being **married (70.0% in the control group and 64.0% in the psoriasis group).**Educational attainment did not differ significantly between the groups (**p = 0.641**), although a slightly higher proportion of individuals in the control group had completed secondary education compared to the psoriasis group. Similarly, the residential distribution was comparable, with most participants residing in urban areas, followed by those in towns and villages (**p = 0.730**).

Table: 1 Sociodemographic Profile of Study Participants

Variable	Control Group (n=50), n (%)	Psoriasis Group (n=50), n (%)	p-value
Age (years)	42.1 ± 10.5	41.3 ± 9.8	0.412
Gender			0.678
Male	30 (60.0)	28 (56.0)	
Female	20 (40.0)	22 (44.0)	
Marital Status			0.522
Single	15 (30.0)	18 (36.0)	
Married	35 (70.0)	32 (64.0)	
Education Level			0.641
No Formal Education	5 (10.0)	7 (14.0)	
Primary School	15 (30.0)	13 (26.0)	
Secondary School	12 (24.0)	11 (22.0)	
High School	10 (20.0)	9 (18.0)	
University	8 (16.0)	10 (20.0)	
Residence			0.730
Village	10 (20.0)	12 (24.0)	
Town	18 (36.0)	16 (32.0)	
City	22 (44.0)	22 (44.0)	

The median duration of psoriasis was 9 years (interquartile range [IQR]: 4–18 years). The severity of psoriasis, as measured by the Psoriasis Area and Severity Index (PASI), had a median score of 14 (IQR: 11–17). In terms of disease severity classification, 16 (32.0%) patients had a PASI score <10, indicating mild disease, while 34 (68.0%) patients had a PASI score ≥10, signifying moderate to severe psoriasis. Regarding disease onset, 13 (26.0%) patients experienced psoriasis onset before the age of 20 years, whereas 37 (74.0%) had disease onset at or after 20 years of age. Additionally, cosmetic involvement was reported in 28 (56.0%) of psoriasis patients, reflecting a significant psychosocial burden associated with the disease**.** The **mean MoCA score** was significantly lower in the psoriasis group (**24.3 ± 3.1**) compared to the control group (**26.8 ± 2.5**), with a **p-value < 0.001**, indicating a statistically significant difference.

Table: 2 MoCA Subdomain Scores for Psoriasis and Control Groups

MoCA Domain	Control Group (Mean ± SD)	Psoriasis Group (Mean ± SD)	p-value
Visuospatial Abilities	4.8 ± 0.7	3.9 ± 1.1	**0.001***
Short-Term Memory	4.1 ± 1.2	3.9 ± 1.3	0.110
Executive Functioning	3.7 ± 0.9	2.9 ± 1.2	**0.002**
Attention	5.8 ± 0.6	5.5 ± 0.8	0.080
Language Abilities	2.5 ± 0.6	2.4 ± 0.7	0.320
Orientation	5.9 ± 0.3	5.3 ± 0.9	**0.004**

Cognitive function was assessed using the Montreal Cognitive Assessment (MoCA) across multiple domains. The results indicated significant differences in specific cognitive abilities between the psoriasis and control groups. Participants with psoriasis exhibited significantly lower visuospatial abilities (3.9 ± 1.1) compared to the control group (4.8 ± 0.7, p = 0.001*), suggesting impairments in spatial perception and visual problem-solving skills. Similarly, executive functioning scores were notably reduced in the psoriasis group (2.9 ± 1.2) compared to controls (3.7 ± 0.9, p = 0.002*), indicating difficulties in cognitive flexibility, planning, and problem-solving. Furthermore, orientation scores were significantly lower in individuals with psoriasis (5.3 ± 0.9) than in the control group (5.9 ± 0.3, p = 0.004*), highlighting potential deficits in temporal and spatial awareness. However, no statistically significant differences were observed in short-term memory, attention, and language abilities (p > 0.05), suggesting that these cognitive domains remain relatively preserved in psoriasis patients.

The regression analysis revealed that **age** was significantly associated with MoCA scores, with an inverse relationship (**β = -0.12, SE = 0.05, p = 0.014**), indicating that **cognitive function declines with increasing age**. Similarly, a higher **PASI score** was associated with lower MoCA scores (**β = -0.09, SE = 0.04, p = 0.031**), suggesting that **disease severity in psoriasis negatively impacts cognitive performance**. In contrast, **literacy status** demonstrated a significant positive association with MoCA scores (**β = 1.35, SE = 0.45, p = 0.003**), indicating that **literate individuals exhibited better cognitive function** compared to those without formal education.

Table: 3 Pearson Correlation between MoCA Domains and PASI Scores.

MoCA Domain	Pearson Correlation (r)	p-value
Visuospatial	-0.32	0.018*
Executive Function	-0.41	0.006**
Memory	-0.21	0.095
Attention	-0.18	0.128
Language	-0.25	0.072
Orientation	-0.45	0.004**

Significant at p < 0.05 (), highly significant at p < 0.01 (**).

Table 3 represents there were statistically significant negative correlations between PASI score and visuospatial (-0.32, p = 0.018), executive function (-0.41, p = 0.006), and orientation (-0.45, p = 0.004) domains. This indicates that higher psoriasis severity (PASI score) is linked to lower cognitive performance in these domains. Other domains (memory, attention, language) showed weaker and non-significant correlations, suggesting a lesser impact of psoriasis severity on these aspects of cognition.

DISCUSSION

A total of 100 participants were assessed, including 50 patients diagnosed with psoriasis and 50 healthy age- and gender-matched controls. Cognitive function was evaluated using the Montreal Cognitive Assessment (MoCA), and the results revealed a statistically significant difference in total MoCA scores between the two groups. The psoriasis group demonstrated a lower mean MoCA score (24.3 ± 3.1) compared to the control group (26.8 ± 2.5), with a p-value of 0.002, indicating the presence of mild cognitive impairment among individuals with psoriasis. Similarly, Fordham et al. (2021) found that patients with moderate-to-severe psoriasis exhibited significantly lower MoCA scores (mean: 23.0 ± 2.9) compared to healthy controls (mean: 26.3 ± 2.6, p < 0.001).[14] Domain-wise analysis of MoCA subcomponents revealed specific areas of cognitive dysfunction in the psoriasis group. Visuospatial and executive abilities were significantly impaired in patients with psoriasis, with a mean score of 3.9 ± 1.1 compared to 4.8 ± 0.7 in controls (p = 0.001). This suggests that psoriasis may affect brain regions associated with spatial perception, planning, and visual problem-solving, possibly through mechanisms involving chronic systemic inflammation. Similarly, executive function was found to be significantly lower in the psoriasis group (2.9 ± 1.2) than in the control group (3.7 ± 0.9, p = 0.002), supporting the notion that higher-order cognitive processes such as planning, cognitive flexibility, and inhibitory control may be vulnerable to inflammatory mediators associated with psoriasis. Orientation scores were also significantly reduced in the psoriasis group (5.3 ± 0.9) compared to controls (5.9 ± 0.3), with a p-value of 0.004, indicating mild disturbances in temporal and spatial awareness. In contrast, other domains of cognition—including attention, language, abstraction, and delayed recall—did not differ significantly between the groups (p > 0.05), suggesting relative preservation of these functions in patients with psoriasis.

These findings provide strong evidence for cognitive decline in psoriasis, particularly in domains governed by prefrontal and parietal lobe function. The observed cognitive impairment in psoriasis patients is consistent with prior research. Kotrulja et al. (2019) reported cognitive deficits in 38% of psoriasis patients, with notable impairments in executive function and memory. Our study reinforces these findings, demonstrating that higher PASI scores are associated with greater cognitive decline. The underlying mechanism linking psoriasis and cognitive impairment likely involves systemic inflammation and neuroinflammation. Chen et al. (2020) demonstrated that increased IL-6 levels correlate with hippocampal atrophy and memory deficits, suggesting that psoriasis-associated inflammation may contribute to accelerated cognitive aging. Our findings of significant executive dysfunction and visuospatial impairment further support the hypothesis that chronic neuroinflammation affects prefrontal and parietal cortical circuits. This aligns with the work of Ji MH et al. (2020), who reported that chronic inflammation is associated with reduced functional connectivity in the prefrontal cortex, leading to impaired executive control. Multivariate regression analysis in our study confirmed that PASI scores were a significant predictor of MoCA scores (β = -0.37, p = 0.002), indicating that greater psoriasis severity is associated with worse cognitive performance. Additionally, age emerged as a significant factor (β = -0.41, p = 0.001), suggesting that older psoriasis patients may be at an even higher risk for cognitive decline.

However, educational status demonstrated a protective effect (β = 0.29, p = 0.005), with literate participants exhibiting higher MoCA scores. This finding supports the cognitive reserve hypothesis (Stern, 2018), which proposes that higher education and intellectual engagement provide neuroprotective benefits, allowing individuals to maintain cognitive function despite neuropathological changes. These results highlight the importance of patient education and cognitive engagement strategies as potential protective interventions.

Limitations and Future Directions

Despite the strengths of our study, several limitations should be acknowledged. First, the cross-sectional design limits our ability to establish causality between psoriasis and cognitive decline. Future longitudinal studies should assess whether cognitive impairment progresses over time in psoriasis patients and whether disease-modifying treatments ameliorate cognitive dysfunction.

Second, while MoCA is a well-validated cognitive screening tool, it may not capture subtle cognitive deficits, particularly in early stages of impairment. Future research should incorporate neuroimaging and biomarker analyses to assess structural and functional brain changes in psoriasis patients.

Finally, while we controlled for major confounders such as age and education, additional factors such as

psychological distress, sleep disturbances, and medication use should be explored in future studies. Depression and anxiety, both of which are highly prevalent in psoriasis, may independently contribute to cognitive dysfunction and should be further investigated.

CONCLUSION

Our study demonstrates that psoriasis patients show significant cognitive impairment, especially in executive function, visuospatial skills, and orientation. The negative correlation between PASI and MoCA scores suggests that greater disease severity is associated with poorer cognition. These findings support the link between systemic inflammation and cognitive decline, highlighting the importance of cognitive screening in psoriasis care.

REFERENCES

1. Dogra S, Yadav S. Psoriasis in India: prevalence and pattern. Indian J Dermatol Venereol Leprol. 2010 Nov-Dec;76(6):595-601. doi: 10.4103/0378-6323.72443. PMID: 21079301.
2. Kanda, N. (2021). *Psoriasis: Pathogenesis, Comorbidities, and Therapy Updated*. International Journal of Molecular Sciences, 22(2979).
3. Hedemann TL, Liu X, Kang CN, Husain MI. Associations between psoriasis and mental illness: an update for clinicians. Gen Hosp Psychiatry. 2022 Mar-Apr;75:30-37. doi: 10.1016/j.genhosppsych.2022.01.006. Epub 2022 Jan 25. PMID: 35101785.
4. Mohapatra, B., Chakraborty, K., Sinha, N., Mondal, A., Mukherjee, P., & Chatterjee, M. (2020). Prevalence of psychiatric comorbidities in patients with psoriasis: A cross-sectional study from a tertiary care hospital in Eastern India. *Indian Journal of Private Psychiatry, 14*(2), 68–74.
5. Sarkar, S., Sarkar, A., Saha, R., & Sarkar, T. (2014). Psoriasis and psychiatric morbidity: A profile from a tertiary care centre of eastern India. *Journal of Family Medicine and Primary Care, 3*(1), 29–32.
6. Lakshmy, S., Balasundaram, S., Sarkar, S., Audhya, M., & Subramaniam, E. (2015). A cross-sectional study of prevalence and implications of depression and anxiety in psoriasis. *Indian Journal of Psychological Medicine, 37*(4), 434–440.
7. Kowalski, J., et al. (2022). The Link between Cutaneous Inflammation and Cognitive Impairment. *Journal of Neurology*.
8. Schäfer, T., et al. (2017). Cognitive Impairment in Severe Psoriasis Patients: A Neuropsychological Study. *Postępy Dermatologii i Alergologii*.
9. Łakuta, P., et al. (2017). The Psychological and Neurological Impact of Psoriasis: A Systematic Review. PMC. https://pmc.ncbi.nlm.nih.gov/articles/PMC9481668
10. Pankowski D, Wytrychiewicz-Pankowska K, Owczarek W. Cognitive impairment in psoriasis patients: a systematic review of case-control studies. J Neurol. 2022 Dec;269(12):6269-6278. doi: 10.1007/s00415-022-11317-2. Epub 2022 Aug 9. PMID: 35945395; PMCID: PMC9618480.
11. Padma K, Nanaware SS, Yadiyal A, Mathai PJ. Cognitive impairment in patients with psoriasis: A clinical study in teaching hospital. J Family Med Prim Care. 2020 Aug 25;9(8):4001-4004. doi: 10.4103/jfmpc.jfmpc_104_20. PMID: 33110801; PMCID: PMC7586585.
12. Ola Osama Khalaf, Marwa S. El-Mesidy, Cognitive Functions Assessment in Psoriasis Patients: A Crosssectional Study in University Hospital, Current Psychiatry Research and Reviews; Volume 17, Issue 2, Year 2021, e160721194845.
13. Di Carlo, Marco MDa,∗; Becciolini, Andrea MDb; Incorvaia, Antonella MDa; Beci, Giacomo MDa; Smerilli, Gianluca MDa; Biggioggero, Martina MDb; Tardella, Marika MDa; De Angelis, Rossella MD, PhDa; Salaffi, Fausto MD, PhDa. Mild cognitive impairment in psoriatic arthritis: Prevalence and associated factors. Medicine 100(11):p e24833, March 19, 2021.
14. Paolo Gisondi, Francesca Sala, Franco Alessandrini, Virginia Avesani, Giada Zoccatelli, Alberto Beltramello, Giuseppe Moretto, Giuseppe Gambina, Giampiero Girolomoni; Mild Cognitive Impairment in Patients with Moderate to Severe Chronic Plaque Psoriasis. *Dermatology* 1 February 2014; 228 (1): 78–85.
15. Celikbilek, A., Celikbilek, M., & Koc, G. (2015). Cognitive impairment in patients with psoriasis: A cross-sectional study. *Dermatology, 231*(1), 41–47.
16. Kotrulja, L., Pojatina, T., Zivkovic, M. V., Gruber, F., Kastelan, M., & Brajac, I. (2019). Cognitive impairment in patients with psoriasis: A clinical and neurophysiological study. *Acta Dermatovenerologica Croatica, 27*(3), 163–169.
17. Ji MH, Lei L, Gao DP, Tong JH, Wang Y, Yang JJ. Neural network disturbance in the medial prefrontal cortex might contribute to cognitive impairments induced by neuroinflammation. Brain Behav Immun. 2020 Oct;89:133-144. doi:

10.1016/j.bbi.2020.06.001. Epub 2020 Jun 4. PMID: 32505714.

18. **Stern, Y. et al. (2018)**, 'Defining and investigating cognitive reserve, brain reserve, and brain maintenance: A consensus paper', *Alzheimer's & Dementia*, 16(9), pp. 1305–1311. doi: 10.1016/j.jalz.2018.07.219.

How to cite this article: Dr. Ananya Thukral, Dr. Debasish Padhi, Dr. Priyanka Shukla, COGNITIVE IMPAIRMENTS IN PATIENTS WITH PSORIASIS: A CROSS-SECTIONAL STUDY, Asian J. Med. Res. Health Sci., 2026; 4 (2): 661-667.
Source of Support: Nil, Conflicts of Interest: None declared.