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Letter to Editor
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Sleep Disturbance and Mental Health Burden of Prurigo Nodularis in Older Adults: Implications for Cognitive Decline and Delirium Risk

Marchus Anna[1], Kermet Sophia[1], Rayaan Kader[1], Gregory Julianna[1] and Danny Lee[2]*

[1]*Florida State College of Medicine, Tallahassee, FL, USA*

[2]*Department of Medicine, University of California San Francisco St. Mary's Hospital, San Francisco, CA, USA*

Abstract

Background: Prurigo nodularis (PN) is a chronic inflammatory dermatosis characterized by severe pruritus and nodular skin lesions and disproportionately affects older adults. Although PN is traditionally conceptualized as a dermatologic condition, its associated sleep disturbance and psychological burden may be particularly relevant in geriatric populations.

Objective: This review synthesizes existing evidence describing sleep disturbance, psychological comorbidity, and quality-of-life impairment associated with PN in older adults and contextualizes these findings within established geriatric risk factors for cognitive vulnerability and delirium.

Methods: A narrative literature review was conducted using PubMed, Embase, Scopus, and Web of Science, including studies examining PN or chronic pruritus in adults aged 50 years and older, as well as relevant geriatric literature addressing sleep disruption, mental health, medication burden, and cognitive outcomes.

Results: The reviewed literature consistently describes PN as being associated with severe nocturnal pruritus, prolonged sleep latency, frequent nighttime awakenings, reduced sleep duration, and high rates of depression, anxiety, irritability, and social withdrawal, alongside substantial reductions in dermatology-specific and overall quality of life. Treatment approaches frequently involve sedating or centrally acting medications, resulting in increased medication burden among older adults, while direct studies evaluating delirium or cognitive decline in PN remain limited.

Conclusion: Current evidence characterizes PN in older adults as a condition associated with significant sleep disruption, psychological distress, and medication burden, and although direct data linking PN to cognitive decline or delirium are lacking, these features overlap with established geriatric risk factors for cognitive vulnerability and underscore the need for further investigation and comprehensive clinical management strategies.

Dear Editor

Prurigo nodularis (PN) is a chronic, intensely pruritic inflammatory dermatosis characterized by hyperkeratotic nodules and a self-perpetuating itch–scratch cycle. Although PN can occur across the lifespan, it disproportionately affects older adults and is associated with substantial symptom burden and impaired quality of life [1, 2].

Traditionally conceptualized as a dermatologic condition, emerging evidence suggests that PN carries broader systemic consequences, including severe nocturnal pruritus, sleep fragmentation, and psychological distress [3, 4].

These manifestations are particularly relevant in geriatric populations, in whom sleep disturbance, chronic psychological stress, and polypharmacy are independently associated with increased vulnerability to cognitive impairment, delirium, falls, and functional decline [5]. While PN is increasingly recognized as a disease with significant psychosocial impact, its potential implications for neurocognitive vulnerability in older adults remain underexplored. Understanding PN through a geriatric lens is therefore critical for optimizing care in aging populations.

This review synthesizes existing literature on sleep disturbance, psychological burden, medication use, and quality-of-life impairment associated with PN in older adults and examines

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Correspondence:
Dr. Anna Marchus, BS., Florida State University, 1115 W Call St, Tallahassee, FL 32304, USA,
E-mail: acm24i@med.fsu.edu

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Figure 1: Our proposed figure demonstrates the potential effect on cognitive vulnerability and delirium that may be associated with comorbid symptoms of prurigo nodularis.

how these factors overlap with established pathways of cognitive vulnerability and delirium risk.

A narrative literature review was conducted using PubMed, Embase, Scopus, and Web of Science. Studies published in English examining PN in adults aged 50 years and older were prioritized. Given the limited availability of studies directly evaluating neurocognitive outcomes in PN, literature addressing chronic pruritus in older adults, sleep disturbance, psychological burden, medication effects, and delirium risk was also reviewed to contextualize findings.

Both qualitative and epidemiologic studies were included. Articles were evaluated for relevance to sleep quality, mental health outcomes, quality of life, functional status, and medication use. Findings were synthesized thematically rather than quantitatively.

Sleep impairment is a hallmark feature of PN. Multiple studies describe severe nocturnal pruritus leading to prolonged sleep latency, frequent nighttime awakenings, and reduced total sleep duration [1, 2]. Patients commonly report itch intensity peaking at night, resulting in chronic sleep fragmentation and nonrestorative sleep [3].

In older adults, disrupted sleep is a well-established risk factor for impaired attention, executive dysfunction, delirium, and falls. Sleep deprivation also exacerbates inflammatory pathways and reduces cognitive reserve, suggesting that PN-related sleep disturbance may represent a clinically meaningful contributor to geriatric vulnerability [5]. Although sleep outcomes in PN are often reported as secondary endpoints, their consistency across studies underscores their clinical relevance.

PN is associated with substantial psychological burden. Elevated rates of depression, anxiety, irritability, and social withdrawal are consistently reported among affected patients [3, 6]. Qualitative studies highlight the profound emotional distress associated with chronic itch, visible skin lesions, and treatment-refractory symptoms [3].

In older adults, psychological distress may be amplified by comorbid illness, social isolation, and reduced physiologic resilience. Mood disorders and chronic psychological stress are independently associated with cognitive impairment and increased delirium risk, particularly in the context of acute illness or hospitalization [5]. The bidirectional relationship between itch, sleep disruption, and psychological distress may further reinforce symptom severity and neurocognitive vulnerability in PN.

PN significantly impairs both dermatology-specific and overall quality of life [7]. Patients report limitations in daily activities, reduced social engagement, and diminished physical and emotional well-being. In older adults, these impairments may translate into reduced functional reserve and increased susceptibility to adverse outcomes during periods of physiologic stress.

Functional decline and reduced resilience are key determinants of delirium risk in geriatric populations. Although functional outcomes are infrequently the primary focus of PN studies, the degree of quality-of-life impairment reported suggests clinically meaningful downstream consequences.

Management of PN frequently involves antihistamines, gabapentinoids, antidepressants, and other centrally acting agents [4, 6]. While often necessary for symptom control, these medications carry sedating and cognitive side effects that are particularly concerning in older adults.

Polypharmacy is a well-established risk factor for delirium and cognitive impairment. In PN, the chronic nature of symptoms may necessitate prolonged exposure to sedating medications, increasing the risk of medication-related harm. The need to balance effective pruritus control with cognitive safety is therefore a critical consideration in geriatric PN management.

To date, no studies have directly examined delirium incidence or longitudinal cognitive outcomes in patients with PN. However, the constellation of features commonly observed in PN—chronic itch, sleep fragmentation, psychological distress, and exposure to sedating medications—overlaps substantially with established geriatric risk factors for cognitive vulnerability and delirium.

Evidence from studies of chronic pruritus in older adults with dementia demonstrates associations with agitation, impaired attention, and fluctuating cognitive states, supporting the plausibility of similar mechanisms in PN [5]. These parallels suggest that PN may act as a contributor to cognitive vulnerability, particularly in frail or hospitalized older adults, even in the absence of direct causal evidence.

Recognizing PN as a condition with potential systemic and geriatric implications has important clinical consequences. Routine assessment of sleep quality, mental health symptoms, and medication burden may help identify older adults with PN who are at increased risk for cognitive vulnerability. Judicious use of sedating medications and consideration of targeted therapies that reduce pruritus may mitigate downstream risk.

A multidisciplinary approach integrating dermatology, primary care, geriatrics, and mental health services may be particularly beneficial for older adults with PN. Such an approach aligns symptom control with preservation of cognitive and functional health.

Prurigo nodularis exerts a substantial and often underrecognized burden on sleep, mental health, and quality of life in older adults. While direct evidence linking PN to cognitive decline or delirium is limited, the convergence of chronic itch, sleep disruption, psychological distress, and polypharmacy reflects established pathways of geriatric cognitive vulnerability. Viewing PN not only as a dermatologic condition but also as a contributor to systemic risk may improve risk stratification, guide comprehensive care strategies, and inform future research aimed at preventing downstream neurocognitive complications.

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