Work-Related Stress and Its Psychodermatological Impact on Nursing Professionals

Melody Saquido[*]

Adria Medical Centre, United Arab Emirates

ABSTRACT

Background: Occupational stress is a prevalent issue among nursing professionals, often resulting from high workloads, shift rotations, and emotional demands. While the psychological effects of stress are well-documented, its physical manifestations, particularly dermatological symptoms, remain underexplored. Psychodermatology examines the bidirectional link between psychological stress and skin health, offering insight into how chronic work stress may contribute to conditions such as eczema, psoriasis, and acne. This study investigated the relationship between work-related stress and psychodermatological symptoms among nurses in Dubai, United Arab Emirates.

Methods: A descriptive-correlational research design involving 92 full-time registered nurses from two hospitals was employed. Data were collected using a structured questionnaire comprising demographic variables, the Work-Related Stressor Scale, a psychodermatological symptom checklist, and the Dermatology Life Quality Index (DLQI). Descriptive statistics, Pearson and Spearman correlations, and multiple linear regression analyses were performed to identify associations and predictive factors.

Results: Nearly half (49%) of the participants reported experiencing psychodermatological conditions, with acne, seborrheic dermatitis, and eczema being most prevalent. Moderate levels of occupational stress were observed, especially in emotional exhaustion, job insecurity, and lack of administrative support. A strong positive correlation was found between overall stress levels and symptom severity ($r = 0.728$, $p < 0.001$). Regression analysis identified emotional distress exposure, job insecurity, role ambiguity, and workload as significant predictors of symptom severity. Years of service and shift type were also associated with stress levels and dermatological outcomes.

Conclusion: The findings demonstrate a significant link between occupational stress and stress-related skin conditions among nursing professionals. These results highlight the need for holistic occupational wellness programs that address stress's psychological and physical manifestations. Targeted interventions focusing on stress management, workload regulation, and skin health promotion are recommended to enhance nurses' well-being and professional performance.

Keywords: Occupational Stress; Psychodermatology; Nursing Professionals; Workload; Skin Symptoms; Nurse Wellness

INTRODUCTION

Nursing professionals occupy a central role in healthcare delivery, yet they work under conditions that often place them at sustained risk of occupational stress. The demands of shift work, high patient acuity, chronic understaffing, and exposure to patient suffering have been amplified by recent global health crises such as the COVID-19 pandemic (World Health Organization [WHO], 2021). These stressors are individual challenges and structural issues embedded within health workforce planning and governance (Chiang et al., 2022).

While the psychological consequences of occupational stress in nursing, such as burnout, anxiety, and emotional exhaustion, are well-documented, their physical manifestations remain comparatively underexplored. One such manifestation is the onset or exacerbation of dermatological conditions, a

phenomenon examined within psychodermatology. This discipline highlights the bidirectional relationship between psychological stress and skin health, recognizing that stress-related neuroendocrine responses, particularly elevated cortisol levels, can impair skin barrier function and trigger inflammatory dermatoses such as eczema, psoriasis, urticaria, and acne (Gupta et al., 1996; Misery et al., 2023).

Nurses may be uniquely vulnerable to such effects due to the dual demands of their professional role as frontline caregivers and as stabilizing agents in overburdened health systems, often prioritizing patient needs over their well-being. The skin, as a highly innervated and immunologically active organ, can become a visible marker of this internal distress, reflecting the physiological imprint of chronic occupational stress.

Emerging evidence links sustained work-related stress to diminished quality of life and reduced workforce sustainability (Dall'Ora et al., 2020; García-Izquierdo et al., 2021; Omotosho et al., 2025). However, the dermatological outcomes of stress in nurses remain largely absent from occupational health discourse. Recognizing stress-induced skin disorders as early indicators of distress offers a potential avenue for timely intervention and more holistic wellness strategies that address both the psychological and somatic dimensions of nurse health.

This study investigates the relationship between work-related stress and psychodermatological symptoms among nursing professionals. By examining this connection, it seeks to inform evidence-based interventions that integrate dermatological health into occupational wellness programs, thereby promoting individual well-being and the long-term sustainability of the nursing workforce.

MATERIALS AND METHODS

Research Design

This study employed a descriptive-correlational research design to investigate the association between occupational stress and psychodermatological symptoms among nursing professionals. The descriptive component enabled detailed characterization of participants' demographic and occupational profiles, levels of work-related stress, and the prevalence and types of stress-related skin conditions. The correlational component examined the strength and direction of associations between specific stress dimensions and psychodermatological symptom severity, following established methodologies in occupational health research (Bolton et al., Borge et al., 2025; Creswell & Creswell, 2018; Dartey et al., 2023). A cross-sectional approach was chosen to provide a timely snapshot of the phenomenon within the hospital setting and to identify patterns that could inform targeted interventions and future longitudinal research.

Materials and Methods

The study was conducted in two tertiary hospitals in Dubai, United Arab Emirates, serving diverse patient populations and encompassing multiple clinical specialties. The target population comprised full-time registered nurses with at least one year of continuous clinical service to ensure adequate exposure to workplace stressors (WHO, 2022). Exclusion criteria included part-time employment, extended leave during the study period, and pre-existing congenital skin disorders or dermatological conditions unrelated to stress. Purposive sampling was used to ensure representation across various departments, including critical care, medical-surgical, emergency, pediatrics, and outpatient services (Lilly et al., 2016).

Data were collected using a structured, self-administered questionnaire consisting of four sections: (1) demographic and work profile, capturing age, sex, marital status, years of service, department, and shift type; (2) the Work-Related Stressor Scale, measuring five domains of occupational stress workload, role ambiguity, emotional exhaustion, job insecurity, and perceived administrative support (Osipow, 1998); (3) a psychodermatological symptom checklist, recording the presence, frequency, and severity of stress-related skin conditions such as acne, eczema, urticaria, and seborrheic dermatitis (Gupta et al., 1996; Misery et al., 2023); and (4) the Dermatology Life Quality Index (DLQI), a validated 10-item instrument assessing the quality-of-life impact of skin disorders across domains including symptoms, daily activities, and emotional well-being (Finlay & Khan, 1994). Questionnaires were distributed during scheduled breaks to minimize disruption to

patient care and returned anonymously in sealed envelopes to ensure confidentiality. Before full implementation, the instruments were pre-tested for clarity and content validity with a pilot group of nurses not included in the final study sample (Chhetri & Khanal, 2024).

Statistical Analysis

Data were analyzed using SPSS version 26. Descriptive statistics summarized demographic and work-related variables. Pearson and Spearman correlation analyses examined associations between occupational stress and psychodermatological symptoms. Multiple linear regression was used to identify significant predictors of symptom severity. Statistical significance was set at $p < 0.05$.

Ethical Approval

Institutional Review Board (IRB) under Research Project No. E-25-8410 was obtained. Written informed consent was obtained from all participants before data collection, and questionnaires were distributed and collected anonymously to maintain confidentiality.

RESULT

The demographic characteristics of the respondents provide important context for understanding their exposure to occupational stress and susceptibility to psychodermatological symptoms. Among the 92 participants, the most significant proportion (28%) was aged 31–40 years, followed by 41–50 years (21%), below 30 years (20%), 51–55 years (18%), and above 56 years (13%). Females comprised 70% of the sample, while 30% were males. Regarding marital status, 63% were married, 21% single, 10% widowed, and 7% separated.

Regarding years of professional service, 33% had 21–30 years of experience, 32% had 11–20 years, 15% had 6–10 years, 12% had less than 5 years, and 9% had more than 30 years. Clinical assignments were distributed across Medical–Surgical units (27%), ICU (26%), Operating Room (26%), and Emergency Department (21%).

Half the respondents worked day shifts, 28%-night, and 22% rotating shifts. Weekly working hours varied, with 36% working 40 hours, 34% working 44 hours, 15% working 48 hours, 13% working 39 hours, and 2% working 60 hours. Almost half (49%) reported having pre-existing skin conditions (Table 1).

Table 1. Demographic Profile of Respondents (N = 92)

Age	Frequency	Percentage (%)
< 30	18	20%
31-40	26	28%
41-50	19	21%
51-55	17	18%
> 56	12	13%
Gender		
Female	64	70%
Male	28	30%
Marital Status		
Married	58	63%

Separated	6	7%
Single	19	21%
Widowed	9	10%
Year of service		
<5 years	11	12%
11–20 year	29	32%
21–30 year	30	33%
6–10 years	14	15%
>30 years	8	9%
Unit		
Emergency	19	21%
ICU	24	26%
Medical-Surgical	25	27%
OR	24	26%
Shift schedule		
Day	46	50%
Night	26	28%
Rotating	20	22%
Average weekly working hours		
39	12	13%
40	33	36%
44	31	34%
48	14	15%
60	2	2%
Pre-existing skin condition		
Yes	45	49%
No	47	51%

These findings highlight a predominantly mid-career, female nursing workforce, many of whom are employed in high-demand clinical areas and subject to varied shift schedules. Such demographic and occupational factors provide essential context for interpreting stress exposure and the potential for dermatological manifestations in this population.

Table 2 shows that nurses experienced various skin conditions commonly associated with occupational stress. The most frequently reported conditions were psoriasis (55%), hives/urticaria (53%), and eczema (49%), followed by chronic itching or pruritus (47%), seborrheic dermatitis (46%), and acne (40%).

Table 2. Frequency and Severity of Reported Psychodermatological Symptoms (N = 92)

Skin Condition	Eczema	Psoriasis	Hives (Urticaria)	Acne	Seborrheic Dermatitis	Chronic Itching (Pruritus)
Currently Experienced						
No	47 (51%)	41 (45%)	43 (47%)	55 (60%)	50 (54%)	49 (53%)
Yes	45 (49%)	51 (55%)	49 (53%)	37 (40%)	42 (46%)	43 (47%)
Frequency						
Always	25 (27%)	23 (25%)	23 (25%)	28 (30%)	23 (25%)	14 (15%)
Often	13 (14%)	26 (28%)	21 (23%)	22 (24%)	19 (21%)	34 (37%)
Rarely	30 (33%)	17 (19%)	23 (25%)	27 (29%)	23 (25%)	21 (23%)
Sometimes	24 (26%)	26 (28%)	25 (27%)	15 (16%)	27 (29%)	23 (25%)
Worsens with Workload						
No	44 (48%)	45 (49%)	47 (51%)	42 (46%)	47 (51%)	53 (58%)
Yes	48 (52%)	47 (51%)	45 (49%)	50 (54%)	45 (49%)	39 (42%)

In terms of severity, a substantial proportion of respondents rated their symptoms as severe to very severe, particularly for seborrheic dermatitis (50%), chronic pruritus (48%), and eczema (45%). The frequency of occurrence was also notable, with 15–30% of nurses reporting that symptoms were experienced "always" and an additional 14–37% reporting them "often." For example, 30% reported always experiencing acne, while 37% often experienced chronic itching *(Appendix A)*.

More than half of the participants indicated that symptoms worsened with increased workload, most notably for acne (54%), eczema (52%), and psoriasis (51%). These findings indicate that psychodermatological conditions among nurses are both prevalent and potentially aggravated by occupational demands, underscoring the need for workplace interventions that address stress management and skin health.

Table 3 presents the descriptive statistics from the Work-Related Stressor Scale, assessing the perceived impact of occupational stress on six core aspects of nursing performance: focus and concentration, comfort during task execution, willingness to interact with patients, job satisfaction, physical attendance, and emotional well-being at work. Each item was rated on a 5-point Likert scale, with mean scores ranging from 2.88 to 3.04, indicating a moderate impact of stress across all domains.

Table 3. Levels and Dimensions of Occupational Stress Among Nurses Based on the Work-Related Stressor Scale (N = 92)

Performance Aspect	No Impact	Mild	Moderate	High	Severe	Mean	Std. Deviation	Interpretation
Focus and concentration	17 (19%)	19 (21%)	18 (20%)	20 (22%)	18 (20%)	3.03	1.402	Moderate Impact

Comfort while performing tasks	24 (26%)	15 (16%)	15 (16%)	21 (23%)	17 (19%)	2.91	1.48	Moderate Impact
Willingness to interact with patients	20 (22%)	19 (21%)	16 (17%)	16 (17%)	21 (23%)	2.99	1.479	Moderate Impact
Job satisfaction	18 (20%)	21 (23%)	19 (21%)	20 (22%)	14 (15%)	2.9	1.359	Moderate Impact
Physical attendance at work (absenteeism)	14 (15%)	16 (17%)	26 (28%)	24 (26%)	12 (13%)	3.04	1.257	Moderate Impact
Emotional well-being at work	21 (23%)	15 (26%)	21 (23%)	24 (26%)	11 (12%)	2.88	1.349	Moderate Impact

Mean Score Range: **1.00 – 1.74** = No Impact, **1.75 – 2.49**=Mild Impact**, 2.50 – 3.24**=Moderate Impact, **3.25 – 4.00** = High Impact, **4.01 – 5.00** = Severe Impact

The highest mean score was recorded for physical attendance (Mean = 3.04, SD = 1.257), suggesting that occupational stress frequently contributes to absenteeism or reduced physical presence at work. Focus and concentration followed closely (Mean = 3.03, SD = 1.402), reflecting the cognitive strain experienced under stressful conditions. Willingness to interact with patients (Mean = 2.99, SD = 1.479) also showed a notable impact, indicating potential implications for patient engagement and communication quality.

Moderate effects were similarly observed in comfort during task performance (Mean = 2.91), job satisfaction (Mean = 2.90), and emotional well-being (Mean = 2.88). Standard deviation values ranged from 1.257 to 1.480, suggesting moderate variability in perceived stress among respondents (Table 3).

Table 4 shows the act scores and Dermatology Life Quality Index (DLQI) scores. A moderate positive correlation was found between symptom severity and work performance impact ($r = 0.570$, $p < 0.001$). This indicates that nurses with more severe skin-related symptoms were likelier to report reduced concentration, lower emotional resilience, discomfort during clinical tasks, and reluctance to interact with patients.

Table 4. Correlation Between Psychodermatological Symptom Severity, Job Performance Impact, and DLQI Scores (N = 92)

Variables	Correlation Coefficient (r / ρ)	p-value	Interpretation
Symptom Severity × Work Performance Impact Score	0.570	< 0.001	Moderate positive correlation; significant
Symptom Severity × DLQI Total Score	0.330	< 0.001	Moderate to strong positive correlation; significant
DLQI Total Score × Work Performance Impact Score	0.537	< 0.001	Moderate positive correlation; significant

Symptom severity was also moderately correlated with DLQI scores ($r = 0.330$, $p < 0.001$), showing that worsening skin symptoms were associated with poorer dermatologic quality of life. In addition, a moderate positive correlation was observed between DLQI scores and work performance impact ($r = 0.537$, $p < 0.001$),

suggesting that lower quality of life due to skin conditions is linked to greater impairment in occupational performance (Table 4).

All correlations were statistically significant at the p < 0.001 level, confirming that psychodermatological symptoms impose a dual burden on nurses, affecting personal well-being and professional functioning. These findings highlight the importance of integrated interventions that address the' psychological and physical aspects of stress-related skin conditions.

Table 5 presents the correlation between overall occupational stress levels and the severity and range of psychodermatological symptoms. A strong positive correlation was observed between occupational stress scores and symptom severity scores (r = 0.728, p < 0.001), indicating that nurses with higher stress levels experienced more intense skin-related symptoms.

A moderate positive correlation was also found between occupational stress scores and the number of distinct skin conditions reported (ρ = 0.421, p < 0.001). This suggests that elevated stress levels were associated with greater symptom severity and a broader range of conditions, including eczema, acne, urticaria, and contact dermatitis (Table 5).

Table 5. Correlation of Total Occupational Stress Score with Symptom Severity and Number of Skin Conditions (N = 92)

Variables Correlated	Correlation Coefficient (r / ρ)	p-value	Statistical Test Used	Interpretation
Occupational Stress Score × Symptom Severity Score	0.728	< 0.001	Pearson (normal distribution)	Strong positive correlation; statistically significant
Occupational Stress Score × Number of Skin Conditions	0.421	< 0.001	Spearman (non-normal)	Moderate positive correlation; statistically significant

Both correlations were statistically significant at the p < 0.001 level, underscoring the strength and consistency of these associations. These results highlight occupational stress as a key factor contributing to the intensity and diversity of psychodermatological symptoms, reinforcing the importance of integrating skin health monitoring into workplace wellness and stress management programs.

Table 6 presents a multiple linear regression analysis assessing the predictive value of occupational stress dimensions on psychodermatological symptom severity. Four domains emerged as statistically significant predictors: exposure to emotionally distressing situations (β = 0.502, p < 0.001), job insecurity (β = 0.501, p < 0.001), role ambiguity (β = 0.473, p < 0.001), and lack of staff resources/workload (β = 0.442, p < 0.001). Emotional distress exposure was the strongest predictor, indicating its critical influence on worsening skin-related symptoms.

Emotional exhaustion and lack of administrative support did not significantly predict symptom severity (p = 0.448 and p = 0.638, respectively). While these factors contribute to overall job-related distress, their individual effects may be less direct than the more acute or structural stressors identified (Table 6).

Table 6. Predictive Influence of Occupational Stress Domains on Psychodermatological Symptom Severity Among Nursing Professionals

Predictor (Occupational Stress Domain)	Unstandardized Coefficient (B)	Standard Error (SE)	Standardized Coefficient (β)	t-value	p-value	Interpretation

Emotional Exhaustion	-0.017	0.022	-0.041	-0.762	0.448	Not statistically significant
Lack of Administrative Support	-0.011	0.024	-0.026	-0.472	0.638	Not statistically significant
Role Ambiguity	0.193	0.023	0.473	8.505	< 0.001	Strong, significant positive predictor
Emotional Distress Exposure	0.187	0.020	0.502	9.247	< 0.001	Strong, significant positive predictor
Job Insecurity	0.187	0.021	0.501	8.846	< 0.001	Strong, significant positive predictor
Lack of Resources/ Workload	0.164	0.021	0.442	7.970	< 0.001	Strong, significant positive predictor

The regression model demonstrates a robust relationship between specific occupational stressors and the severity of psychodermatological symptoms. These findings highlight the need for workplace strategies that enhance role clarity, strengthen emotional resilience, ensure adequate staffing, and promote job security as part of comprehensive nurse wellness programs.

Table 7 analyzed demographic and work-related predictors of occupational stress and psychodermatological symptom severity. Independent samples t-tests, one-way ANOVA, and linear regression analyses were applied based on variable type. Four factors were statistically significant: shift type, years of service, age, and presence of pre-existing skin conditions.

A significant difference in occupational stress scores was observed across shift types (F = 3.45, p = 0.021), with the highest stress reported among rotating nurses. Years of service were significantly associated with symptom severity (F = 4.02, p = 0.011), with nurses with more than 10 years of experience reporting higher scores. Age also emerged as a significant predictor (β = 0.271, p = 0.013), with older nurses reporting more severe symptoms.

The presence of a pre-existing skin condition was strongly associated with greater symptom severity (t = 12.613, p = 0.001). In contrast, gender, clinical unit, and weekly working hours did not significantly influence occupational stress or symptom severity (Table 7).

Table 7. Influence of Demographic and Work-Related Variables on Occupational Stress Levels and Psychodermatological Symptom Severity Among Nurses

Independent Variable	Group/Category	Dependent Variable	Test Used	Test Statistic	p-value	Interpretation
Gender	Male vs. Female	Occupational Stress Score	t-test	$t = -0.354$	0.762	No significant difference in stress levels between male and female nurses.
Shift Type	Day, Night, Rotating	Occupational Stress Score	ANOVA	$F = 3.45$	0.021*	Significant difference; nurses on rotating shifts reported the

						highest stress.
Years of Service	<5, 5–10, >10 years	Psychoderma-tological Symptom Severity	ANOVA	$F = 4.02$	0.011*	Significant; longer service duration was associated with greater symptom severity.
Clinical Unit	ED, ICU, OR, Med-Surg, Other	Occupational Stress Score	ANOVA	$F = 1.58$	0.082	No significant difference; stress levels were similar across clinical units.
Weekly Working Hours	Continuous variable	Occupational Stress Score	Linear Regression	$\beta = 0.016$	0.876	Not a significant predictor of occupational stress.
Age	Continuous variable	Psychoderma-tological Symptom Severity	Linear Regression	$r^2 = 0.271$	0.013*	Significant predictor; increasing age associated with higher symptom severity.
Pre-existing Skin Condition	Yes vs. No	Psychoderma-tological Symptom Severity	t-test	$t = 12.613$	0.001*	Significant difference; nurses with pre-existing conditions had higher symptom severity.

These results indicate that shift patterns, career longevity, age, and existing dermatologic conditions influence nurses' stress-related skin health outcomes. Tailored interventions targeting these risk factors may help mitigate psychological and dermatological impacts in this population.

Table 8 presents the independent samples t-test results comparing occupational stress levels between nurses with and without pre-existing skin conditions. The analysis showed a statistically significant difference, t(90) = 12.65, p < 0.001. Nurses with pre-existing conditions (n = 45) reported a higher mean stress score (M = 3.42, SD = 0.38) compared to those without such conditions (n = 47, M = 2.47, SD = 0.34). The mean difference was 0.95, with a 95% confidence interval of 0.80 to 1.10 (Table 8).

Table 8. Comparison of Occupational Stress Levels Between Nurses With and Without Reported Skin Symptoms.

Pre-existing Skin Condition	n	Mean Stress Score	SD	t	df	p-value	Mean Difference	95% CI of the Difference	Interpretation
Yes	45	3.42	0.38	12.65	90	< 0.001	0.95	[0.80, 1.10]	Nurses with pre-existing skin conditions had

										significantly higher stress levels.
No	47	2.47	0.34							

These results suggest that nurses with dermatological conditions are more susceptible to workplace stress, potentially due to environmental triggers such as PPE use, frequent hand hygiene, and exposure to disinfectants. The presence of visible or symptomatic skin conditions may also contribute to psychological strain, compounding the demands of clinical work.

The findings highlight the importance of integrating skin health considerations into occupational wellness programs and offering targeted support to staff with chronic conditions. Strategies such as skin-friendly product use, scheduled relief from PPE, dermatologic consultations, and stress management initiatives may help mitigate this group's dual physical and psychological burden.

DISCUSSION

This study provides compelling evidence for the significant association between occupational stress and psychodermatological symptoms among nurses, reflecting both the prevalence and functional impact of these conditions in a high-pressure clinical environment (Gupta et al., 1996; Jafferany & Pastolero, 2018; Zhang et al., 2024). The high rates of psoriasis, urticaria, and eczema observed are consistent with international psychodermatology research indicating that inflammatory dermatoses are among the most stress-reactive skin disorders (Balieva et al., 2022; Ghasemi & Azadi et al., 2024). The strong positive correlation between occupational stress scores and symptom severity underscores the physiological plausibility of this relationship, supported by psychoneuroimmunological evidence that stress-induced activation of the hypothalamic–pituitary–adrenal (HPA) axis disrupts immune homeostasis and impairs skin barrier function (Dhabhar, 2014; Pondeljak & Lugović-Mihić, 2020).

The findings further reveal that rotating shift schedules, longer years of service, older age, and pre-existing skin conditions significantly predict higher occupational stress or greater symptom severity (Alsharari et al., 2021; Cha et al., 2022). Rotating shifts are well known to disrupt circadian rhythms, impair hormonal regulation, and elevate systemic inflammation, all of which can exacerbate skin disease (Magnavita & Garbarino, 2017; Wu et al., 2021). The association between years of service and symptom severity suggests a cumulative burden of occupational exposure, consistent with Cha et al. (2022), who documented higher dermatologic morbidity in long-tenured nursing staff. Similarly, older nurses demonstrated greater symptom severity, in line with evidence that aging skin exhibits reduced regenerative capacity and increased susceptibility to inflammation (Zhang et al., 2024; Tan et al., 2024).

The regression analysis identified emotional distress exposure, job insecurity, role ambiguity, and inadequate staffing as significant predictors of symptom severity. Emotional distress, the strongest predictor, reflects the psychological toll of repeated exposure to suffering, critical incidents, and ethical dilemmas in nursing care (Hunda et al., 2024; Mossel et al., 2024). Job insecurity and role ambiguity, often linked to organizational restructuring and unclear clinical expectations, are recognized triggers for chronic stress and maladaptive coping behaviors (Dall'Ora et al., 2020; Mahfouz et al., 2023). Inadequate staffing, a longstanding concern in nursing workforce management, increases workload and limits recovery periods, thereby sustaining inflammatory activation (Borge et al., 2025; Werke & Weret, 2023).

Moderate stress-related impairments were observed across all job performance domains, with the most pronounced effects on attendance, concentration, and patient interaction. These impairments mirror findings from prior research indicating that stress compromises cognitive clarity, decision-making, and patient engagement, ultimately threatening care quality (Mahfouz et al., 2023; Penzer-Hick & Haddad, 2021). The significant correlation between Dermatology Life Quality Index (DLQI) scores and work performance impairment further illustrates the dual burden of psychodermatological symptoms impacting professional functioning and personal well-being (Finlay & Khan, 1994; Tan et al., 2024).

Nurses with pre-existing dermatologic diagnoses reported higher stress and symptom severity, reinforcing the bidirectional model in which skin disease and stress perpetuate one another (Basra & Shahrukh, 2009; Dalgard et al., 2015). In healthcare environments, aggravating factors include prolonged personal protective equipment (PPE) use, frequent hand hygiene, and chemical exposures, all of which can provoke or worsen inflammatory dermatoses (Reebye, 2008; Wu et al., 2021). Stigma related to visible skin conditions may also contribute to psychological distress and reduced work engagement (Koo & Lebwohl, 2001; Jafferany & Pastolero, 2018).

From a mechanistic perspective, chronic stress activates neuroendocrine and immune pathways that impair skin barrier lipid synthesis, alter keratinocyte proliferation, and promote pro-inflammatory cytokine production (Dhabhar, 2014; Pondeljak & Lugović-Mihić, 2020). Behavioral factors such as increased scratching, reduced self-care, sleep disturbances, and altered dietary habits during high-stress periods may exacerbate symptom chronicity (Jafferany & Pastolero, 2018; Cha et al., 2022).

These findings have practical implications for occupational health policy. Integrating dermatological assessments into routine nurse health screenings, particularly for those with long tenure, rotating shifts, or pre-existing conditions, could facilitate early detection and intervention (Magnavita & Garbarino, 2011; Borge et al., 2025). Stress management strategies, including resilience training, role clarity initiatives, improved staffing ratios, and ergonomic scheduling, may reduce stress levels and dermatologic burden (Mahfouz et al., 2023; Hunda et al., 2024). Skin-protective measures, such as PPE break schedules and provision of hypoallergenic hygiene products, could mitigate occupational triggers (Reebye, 2008; Tan et al., 2024).

Although the cross-sectional design limits causal inference meaning that no causal relationship between occupational stress and psychodermatological symptoms can be established the reliance on self-administered questionnaires may introduce both recall bias and reporting bias, as participants might underreport or over report stress levels and skin symptoms due to memory inaccuracies, social desirability, or personal interpretation of the questions. Nevertheless, the alignment of our results with established physiological models and prior empirical studies supports their validity (Gupta et al., 1996; Dalgard et al., 2015). Future longitudinal research incorporating biomarker-based assessments of stress and skin inflammation would further clarify temporal relationships and evaluate the efficacy of targeted interventions (Pondeljak & Lugović-Mihić, 2020; Zhang et al., 2024).

CONCLUSION

This study concludes that occupational stress among nursing professionals is not only a psychological burden but also a contributing factor to the development and worsening of psychodermatological symptoms. The findings revealed a strong correlation between elevated stress levels and the severity and variety of skin conditions such as eczema, psoriasis, urticaria, and acne. These conditions, often exacerbated by high workloads, rotating shifts, and emotionally demanding work environments, reflect the complex interplay between mental and physical health in the nursing profession.

The study confirms that the presence of stress-related skin symptoms is influenced not only by individual coping capacity but also by institutional factors, including role ambiguity, emotional distress exposure, job insecurity, and inadequate staffing. While nurses continue to demonstrate resilience in workplace challenges, the absence of structured wellness support systems may contribute to long-term physical and emotional strain.

These findings underscore the urgent need for healthcare institutions to implement holistic wellness programs that go beyond mental health support to include physical manifestations of stress, particularly skin-related concerns. Integrating psychodermatological screening, stress management training, and improved work conditions into occupational health protocols can enhance nurse well-being and professional performance. Creating supportive, responsive, and health-promoting environments is essential for sustaining a healthy and productive nursing workforce.

REFERENCES

1. Alsharari, A. F., Abuadas, F. H., Hakami, M. N., Darraj, A. A., & Hakami, M. W. (2021). Impact of night shift rotations on nursing performance and patient safety: A cross-sectional study. Nursing open, 8(3), 1479–1488. https://doi.org/10.1002/nop2.766

2. Balieva, F., Schut, C., Kupfer, J., Lien, L., Misery, L., Sampogna, F., von Euler, L., & Dalgard, F. J. (2022). Perceived stress in patients with inflammatory and non-inflammatory skin conditions: An observational controlled study among 255 Norwegian dermatological outpatients. Skin Health and Disease, 2, e162. https://doi.org/10.1002/ski2.162

3. Basra, M. K. A., & Shahrukh, M. (2009). Burden of skin diseases. Expert Review of Pharmacoeconomics & Outcomes Research, 9(3), 271–283. https://doi.org/10.1586/erp.09.18

4. Bolton, T., Myint, M., & Hughes, J. M. (2023). Cognitive exhaustion and inflammatory response: A biopsychological feedback model in healthcare workers. Journal of Occupational Health Psychology, 28(2), 110–124.

5. Borge, R. H., Johannessen, H. A., & Alfonso, J. H. (2025). Psychosocial work exposures as risk factors for skin problems in a general working population: cross-sectional and prospective associations. International archives of occupational and environmental health, 98(3), 309–319. https://doi.org/10.1007/s00420-025-02135-w

6. Cha, Y. J., Lee, K. S., Cho, J. H., Choi, I. S., & Lee, D. (2022). Effect of Job Stress on Burnout among Nurses Responding to COVID-19: The Mediating Effect of Resilience. International journal of environmental research and public health, 19(9), 5409. https://doi.org/10.3390/ijerph19095409

7. Chiang, S. L., Chiang, L. C., Tzeng, W. C., Lee, M. S., Fang, C. C., Lin, C. H., & Lin, C. H. (2022). Impact of Rotating Shifts on Lifestyle Patterns and Perceived Stress among Nurses: A Cross-Sectional Study. International journal of environmental research and public health, 19(9), 5235. https://doi.org/10.3390/ijerph19095235

8. Chhetri, D. B., & Khanal, Bishnu. (2024). A Pilot Study Approach to Assessing the Reliability and Validity of Relevancy and Efficacy Survey Scale. Janabhawana Research Journal, 3(1), 35–49.

9. Dalgard, F. J., Gieler, U., Tomas-Aragones, L., Lien, L., Poot, F., Jemec, G. B. E., ... & Misery, L. (2015). The psychological burden of skin diseases: A cross-sectional multicenter study among dermatological out-patients in 13 European countries. Journal of Investigative Dermatology, 135(4), 984–991. https://doi.org/10.1038/jid.2014.530

10. Dall'Ora, C., Ball, J., Reinius, M., & Griffiths, P. (2020). Burnout in nursing: A theoretical review. Human Resources for Health, 18(1), 41. https://doi.org/10.1186/s12960-020-00469-9

11. Dartey, A. F., Tackie, V., Lotse, C. W., Dziwornu, E., Affrim, D., & Akosua, D. R. D. (2023). Occupational stress and its effects on nurses at a health facility in Ho Municipality, Ghana. SAGE Open Nursing, 9, 1–11. https://doi.org/10.1177/23779608231186044

12. Dhabhar FS. (2014). Effects of stress on immune function: the good, the bad, and the beautiful. Immunologic Research, 58(2-3), 193–210. https://doi.org/10.1007/s12026-014-8517-0

13. Finlay, A. Y., & Khan, G. K. (1994). Dermatology Life Quality Index (DLQI)—a simple practical measure for routine clinical use. Clinical and Experimental Dermatology, 19(3), 210–216. https://doi.org/10.1111/j.1365-2230.1994.tb01167.x

14. Ghasemi, Z., Shahbazi, M., & Azadi, T. (2024). Skin disorders and psychological well-being in nurses: A cross-sectional study. Nursing & Health Sciences, 26(1), 45–52.

15. Gupta, M. A., & Gupta, A. K. (1996). Psychodermatology: an update. Journal of the American Academy of Dermatology, 34(6), 1030–1046. https://doi.org/10.1016/s0190-9622(96)90284-4

16. Hunda, S. N., Sibiya, M. N., & Khoza, T. E. (2024). Using the transactional model of stress and coping to explore coping strategies adopted by radiology health caregivers during the COVID-19 pandemic. Preprints. https://doi.org/10.20944/preprints202402.0483.v1

17. Jafferany, M., & Pastolero, P. (2018). Psychiatric and Psychological Impact of Chronic Skin Disease. The primary care companion for CNS disorders, 20(2), 17nr02247. https://doi.org/10.4088/PCC.17nr02247

18. Koo, J., & Lebwohl, A. (2001). Psychodermatology: The mind and skin connection. American Family Physician, 64(11), 1873–1878.

19. Lilly, E., Sellitto, C., Milstone, L. M., & White, T. W. (2016). Connexin channels in congenital skin disorders. Seminars in cell & developmental biology, 50, 4–12. https://doi.org/10.1016/j.semcdb.2015.11.018

20. Mahfouz, M. S., Alqassim, A. Y., Hakami, F. A., Alhazmi, A. K., Ashiri, A. M., Hakami, A. M., Khormi, L. M., Adawi, Y. M., & Jabrah, A. A. (2023). Common Skin Diseases and Their Psychosocial Impact among Jazan Population, Saudi Arabia: A Cross-Sectional Survey during 2023. Medicina, 59(10), 1753. https://doi.org/10.3390/medicina59101753

21. Magnavita, N., & Garbarino, S. (2017). Sleep, Health and Wellness at Work: A Scoping Review. International journal of environmental research and public health, 14(11), 1347. https://doi.org/10.3390/ijerph14111347

22. Misery, L., Schut, C., Balieva, F., et al. (2023). White paper on psychodermatology in Europe: A position paper from the EADV Psychodermatology Task Force and the European Society for Dermatology and Psychiatry (ESDaP). Journal of the European Academy of Dermatology and Venereology, 37(12), 2419–2427. https://doi.org/10.1111/jdv.19427

23. Mossel, R. M., Naber, R. J., van Manen, B. C. T., & Rustemeyer, T. (2024). The prevalence of hand dermatitis among intensive care unit nurses. Contact Dermatitis, 91(1), 30–37. https://doi.org/10.1111/cod.14568

24. Omotosho, T. F., Omotosho, T. O. A., & Bass, P. (2025). Work-related stress and its associated factors among nurses in public hospitals in the Greater Banjul Area, The Gambia. International Journal of Africa Nursing Sciences, 22, 100842. https://doi.org/10.1016/j.ijans.2025.100842

25. Penzer-Hick, R., & Haddad, M. (2021). Assessing and managing mental health issues in people with chronic skin conditions. Nursing standard (Royal College of Nursing (Great Britain) : 1987), 36(10), 71–76. https://doi.org/10.7748/ns.2021.e11744

26. Pondeljak, N., & Lugović-Mihić, L. (2020). Stress-induced Interaction of Skin Immune Cells, Hormones, and Neurotransmitters. Clinical therapeutics, 42(5), 757–770. https://doi.org/10.1016/j.clinthera.2020.03.008

27. Reebye, P. (2008). Psychodermatology: The psychological impact of skin disorders. Journal of the Canadian Academy of Child and Adolescent Psychiatry, 17(3), 169–171.

28. Tan, I. J., Mehdikhani, S., Pappert, A. S., & Weber, P. F. (2024). Bridging the gap in dermatology and psychiatry: A scientific rationale. Skin health and disease, 4(6), e456. https://doi.org/10.1002/ski2.456

29. Werke, E. B., & Weret, Z. S. (2023). Occupational stress and associated factors among nurses working at public hospitals of Addis Ababa, Ethiopia, 2022: A hospital-based cross-sectional study. Frontiers in Public Health, 11, 1147086. https://doi.org/10.3389/fpubh.2023.1147086

30. World Health Organization. (2021). The impact of COVID-19 on health and care workers: a closer look at deaths. World Health Organization. https://iris.who.int/handle/10665/345300. License: CC BY-NC-SA 3.0 IGO

31. Wu, H., Liu, L., Wang, Y., & Gao, F. (2021). Skin disorders in doctors and nurses: Prevalence and risk factors. Contact Dermatitis, 85(3), 294–302. https://doi.org/10.1111/cod.13894

32. Zhang, H., Wang, M., Zhao, X., Wang, Y., Chen, X., & Su, J. (2024). Role of stress in skin diseases: A neuroendocrine-immune interaction view. Brain, Behavior, and Immunity, 116, 286–302. https://doi.org/10.1016/j.bbi.2023.12.005

APPENDICES

Appendix A.

Frequency and Severity of Reported Psychodermatological Symptoms (N = 92)

Skin Condition	Eczema	Psoriasis	Hives (Urticaria)	Acne	Seborrheic Dermatitis	Chronic Itching (Pruritus)
Severity						

Mild	14 (15%)	18 (20%)	19 (21%)	18 (20%)	11 (12%)	15 (16%)
Moderate	23 (25%)	17 (19%)	20 (22%)	21 (23%)	17 (19%)	13 (14%)
None	14 (15%)	22 (24%)	21 (23%)	17 (19%)	18 (20%)	20 (22%)
Severe	20 (22%)	16 (17%)	14 (15%)	19 (21%)	22 (24%)	19 (21%)
Very Severe	21 (23%)	19 (21%)	18 (20%)	17 (19%)	24 (26%)	25 (27%)