Applied Nursing Journal of Indonesia
Vol. 3, No. 2, November 2025
https://e-journal.aipviki.org/

EFFECTIVENESS OF PERSONAL HYGIENE AND PETROLEUM JELLY (VASELINE) THERAPY ON THE SEVERITY OF DERMATITIS SCALE IN THE ELDERLY AT UPTD GRIYA WREDA JAMBANGAN

Joni Haryanto[1], Rista Fauziningtyas[2], Audy Widyawati[3*]

Faculty of Nursing, Universitas Airlangga, Surabaya

Article History
Received : August 2025
Revised :
Published : November 2025

Contact
mailto:audy.widyawati-2025@fkp . unair.ac.id

Keywords
Elderly, Personal Hygiene, Dermatitis Atopic, Petroleum Jelly

ABSTRACT

Introduction
In the elderly, dermatitis often occurs due to internal factors such as physiological changes in the skin due to aging, as well as external factors such as the environment and personal hygiene. Personal hygiene that is not optimal can cause the accumulation of dirt, sweat, and microorganisms on the surface of the skin that can potentially trigger irritation and infection. The administration of petroleum jelly is an occlusive agent that works by forming a protective layer on the surface of the skin so that it can reduce fluid loss, maintain moisture, and protect the skin from irritation that can help accelerate the recovery of skin integrity in the elderly.

Method
The provision of nursing care uses a single case study design with the SDKI, SLKI, and SIKI approaches. The subject in this case study is a 66-year-old patient, Mrs. S, diagnosed with atopic dermatitis with a nursing problem of impaired skin integrity. Petroleum jelly was administered for 4 days combined with improved personal hygiene.

Result
Mrs. S, a 66-year-old patient diagnosed with atopic dermatitis, received skin integrity care consisting of 2-3 applications of petroleum jelly combined with personal hygiene care. After 4 days of intervention, there was improvement in skin condition, characterized by increased skin moisture, reduced lesions and scratch marks, decreased redness, smoother skin texture, and reduced pruritus.

Conclusion
The administration of petroleum jelly and improved personal hygiene can be done to reduce the symptoms of atopic dermatitis sufferers. The abnormal pigmentation value has not been resolved, as pigmentation is caused by increased melanin production, while petroleum jelly cannot inhibit melanin production.

INTRODUCTION

Dermatitis is an inflammatory condition of the skin characterized by symptoms such as redness (erythema), itching (pruritus), dry skin (xerosis), and can be accompanied by lesions and irritation. Epidemiologically, dermatitis is one of the most commonly found skin diseases, especially in the elderly in nursing homes. The World Health Organization (WHO) in 2020 reported 5.7 million cases of dermatitis. In Indonesia, 97% of 389 dermatitis-related cases were contact dermatitis, with 66.3% being irritant contact dermatitis and 33.7% being allergic contact dermatitis (Kemenkes, 2020).

In the elderly, dermatitis often occurs due to a combination of factors, both internal factors such as physiological changes in the skin due to aging, and external factors such as the environment and personal hygiene. Suboptimal personal hygiene can cause accumulation of dirt, sweat, and microorganisms on the skin surface that can potentially trigger irritation and infection (Hidayah, 2021). Personal hygiene includes cleanliness of the skin, hands, nails, hair, teeth, and genital area. In the elderly, fulfillment of personal hygiene is often a challenge due to physical limitations, decreased functional capacity, and psychosocial factors (Nur Chasanah et al., 2021).

In addition to personal hygiene factors, dry skin conditions in the elderly are also a major predisposing factor for dermatitis. Dry skin occurs due to decreased levels of epidermal lipids and sebum, thereby increasing transepidermal water loss (TEWL). Therefore, interventions that can maintain skin moisture and improve skin barrier function are needed. Additionally, the skin's ability to repair itself after exposure to irritants decreases due to a tendency for long-term chronic inflammation or inflamm-aging (Agrawal, 2023).

One non-pharmacological intervention that can be used is the administration of petroleum jelly (vaseline). Petroleum jelly is an occlusive agent that works by forming a protective layer on the skin surface, capable of reducing fluid loss, maintaining moisture, and protecting the skin from irritation. Regular use of petroleum jelly has been proven to increase skin hydration, reduce itching (pruritus), and help accelerate skin integrity recovery in the elderly. In addition, petroleum jelly is known to reduce TEWL by up to 99% and improve the structure of the stratum corneum (Aryani & Utami, 2019).

According to Amanda et al. (2025), chi-square test results showed a p-value of 0.000 (<0.05), indicating a significant relationship between personal hygiene and the occurrence of dermatitis. The worse the personal hygiene, the higher the risk of experiencing dermatitis. Based on this background, this case study aims to describe nursing care through improved personal hygiene (personal hygiene) and petroleum jelly therapy toward improving skin integrity in elderly patients with atopic dermatitis at UPTD Griya Wreda Jambangan

METHOD

This study used a descriptive research design with a single case study approach. The case study is the application of a combination of personal hygiene and petroleum jelly in elderly people with atopic dermatitis and impaired skin integrity. Data collection was carried out at UPTD Griya Wreda Jambangan Surabaya on December 29, 2025 to January 1, 2026.

The subject in this case study is Mrs. S, 66 years old, with atopic dermatitis and the nursing problem of impaired skin integrity. Data collection was conducted through nursing assessments consisting of interviews and physical examinations, as well as secondary data from medical records. The nursing process was carried out using the Indonesian Nursing Diagnosis Standard (SDKI), Indonesian Nursing Outcome Standard (SLKI), and Indonesian Nursing Intervention Standard (SIKI) approaches, following Carol A. Miller's nursing model for gerontology.

The nursing care was implemented for 4 days, from December 29, 2025 to January 1, 2026, during morning and afternoon shifts under the supervision of health workers at UPTD Griya Wreda Jambangan Surabaya.

RESULT

Case Overview

Mrs. S, 66 years old, has lived at UPTD Griya Wreda Jambangan Surabaya for 10 months since February 18, 2025. During the assessment, the patient complained of itching accompanied by a burning sensation on both upper arms extending to the shoulder and neck area for approximately 10 months. Mrs. S stated that the complaint began when she entered the nursing home. The complaints were characterized by red and white patches on several areas of the body. The itching was increasingly severe, especially at night, often disturbing the patient's rest time. The patient also frequently scratched the itchy area, especially when the complaint appeared.

Nursing Assessment

Based on the physical examination conducted on December 29, 2025, objective data showed: scratch marks, peeling, and white scaly areas on the upper arms; skin texture tending to be dry and rough; pruritus; redness in the scratched area of the upper arm; and large white patches in the itchy area. Subjectively, the patient complained of itching accompanied by a burning sensation on the upper arms extending to the shoulders and neck. Additional risk factors identified included: the patient's habit of frequently scratching the itchy area (increasing the risk of secondary skin damage and infection), a dirty bed due to scratch residue, and the habit of sleeping without bed sheets (increasing exposure to allergens such as dust and dirt). The patient was in a bedrest condition with total dependence on nurses for daily activities (ADL) including bathing, dressing, eating, toileting, and transferring.

Nursing Diagnosis

Based on data analysis, the priority nursing diagnosis was: (1) Impaired Skin Integrity (D.0129) related to the aging process, evidenced by complaints of itching and burning sensation on the upper arms extending to the shoulders and neck, with scratch marks, peeling skin, white scales, redness, and dry, rough skin texture. (2) Impaired Physical Mobility (D.0054) related to decreased muscle strength, evidenced by inability to move legs, joint stiffness in both feet, and total dependence on nurses. (3) Risk for Falls (D.0143) evidenced by history of falls, age >60 years, joint stiffness, moderate cognitive impairment, and decreased muscle strength.

Nursing Intervention

The intervention plan provided to the patient was skin integrity care with petroleum jelly application performed for 4 days. The table below summarizes the nursing intervention plan:

Table 1. Nursing Intervention for Client with Atopic Dermatitis

Nursing Diagnosis	Goals and Outcome Criteria	Nursing Intervention
Impaired Skin Integrity (D.0129)	After nursing care for 4 x 8 hours, it is expected that skin integrity will improve (L14125) with the following outcome criteria: 1. Decreased skin damage (5) 2. Decreased skin redness (5) 3. Improved skin texture (5)	Skin Integrity Care (I.11353) Observation: 1. Identify the cause of impaired skin integrity. 2. Monitor for signs of petroleum jelly side effects. 1. Therapeutic: 2. Wash hands and wear clean gloves. 3. Apply petroleum jelly 2-3 times daily after bathing. 4. Education: 5. Explain the purpose, indications, and side effects of petroleum jelly. Self-Care Support: Bathing (I.11352)

		6. Perform personal hygiene with warm water (37-38°C). 7. Pat dry the skin with a soft towel. 8. Maintain regular personal hygiene.

Implementation and Evaluation

Nursing implementation was carried out for 4 days (December 29, 2025 - January 1, 2026). On Day 1, the patient's initial condition showed impaired skin integrity characterized by itching with a burning sensation, scratch marks, white scaly peeling on the upper arms, dry and rough skin texture, pruritus, and redness. Petroleum jelly was applied 2x/day and personal hygiene was performed using warm water (37°C) with fragrance-free neutral soap for 15 minutes, then the skin was dried by patting with a soft towel.

On Day 2, the skin appeared more moisturized than the first day. Lesions and redness were still visible but not expanding. The patient stated that the itching intensity had begun to decrease and the skin felt slightly moremoist. On Day 3, there was clearer improvement: the lesion area decreased compared to the second day, the redness began to fade, and the skin texture started to feel smoother. The patient reported a significant reduction in itching. On Day 4, the patient stated that itching had greatly reduced, the skin felt more moist, smooth, and comfortable, and the patient no longer scratched the itchy area.

Tabel 2. Nursing Care Evaluation of Mrs. S

Indicators	Day 1	Day 2	Day 3	Day 4
Skin Moisture	Decreased	Slightly increased	Improved	Good
Lesions/scratch marks	Many	Still present	Decreased	Slightly
Redness (erythema)	Extent	Still present	Starting to fade	Fading
Skin Texture	Rough & dry	Slightly improved	Smoother	Smoother
Pruritus (itching)	Severe	Decreased	Moderately reduced	Much reduced
Abnormal pigmentation	Present	Still present	Still present	Not yet resolved

DISCUSSIONS

Nursing Assessment

Based on the assessment conducted on December 29, 2025, Mrs. S showed manifestations of dermatitis atopik consistent with Carlos (2018), including pruritus, scratch lesions, erythema, and xerosis. The recurrence of itching symptoms in the patient is influenced by various factors. From an internal aspect, elderly skin tends to experience dryness due to the aging process, so the skin barrier function decreases and becomes more susceptible to irritation. External factors also contribute to worsening dermatitis, including shared use of facilities such as soap, detergent, powder, olive oil, and eucalyptus oil.

Another factor that aggravated the condition was suboptimal personal hygiene. The patient was known not to use bed sheets when sleeping, causing the skin to come into direct contact with the bed surface potentially contaminated with dust, dirt, and mites. Exposure to allergens such as house dust mites can be one of the triggers that worsens atopic dermatitis symptoms.

Nursing Diagnosis

The nursing diagnosis of Impaired Skin Integrity (SDKI-D.0129) related to the aging process was established based on the patient's subjective and objective data. According to SDKI (2019), impaired skin integrity is damage to the dermal and/or epidermal layer. According to Maudani et al. (2020), dermatitis, also known as eczema, is an inflammatory condition of the skin characterized by pruritus, skin thickening, erythematous lesions, and may be accompanied by exudation.

The skin damage experienced by Mrs. S can be caused by several factors. Internally, elderly skin tends to experience dryness due to the aging process, reducing skin barrier function and making it more susceptible to irritation. Externally, suboptimal personal hygiene further contributed to the worsening of the dermatitis condition.

Nursing Intervention

The researcher chose to combine two interventions, namely petroleum jelly administration and improved personal hygiene, because both work through different but complementary mechanisms in addressing impaired skin integrity in the elderly. According to Wahidah et al. (2023), the use of petroleum jelly alone will not provide optimal results if not accompanied by good personal hygiene, as unclean skin will remain a medium for the growth of pathogenic microorganisms that can worsen inflammation and impede the healing process. Conversely, good personal hygiene without moisturizer on dry skin will cause the stratum corneum to lose more moisture after bathing, worsening xerosis and pruritus conditions.

Petroleum jelly is a mixture of hydrocarbons derived from petroleum, consisting of high molecular weight paraffin components (7-13%), medium chain paraffin (30-45%), and smaller paraffin molecules (48-60%) (Kamrani et al., 2024). This main content provides the therapeutic properties of petroleum jelly in improving skin integrity through several mechanisms. First, the hydrophobic hydrocarbon content in petroleum jelly forms a semi-occlusive layer on the stratum corneum surface, effectively preventing water loss through evaporation (TEWL) by up to 99% (Aryani & Utami, 2019).

Second, paraffin molecules in petroleum jelly can penetrate into the intercellular layers of the stratum corneum, filling lipid gaps reduced by aging. Third, the inert and hypoallergenic properties of petroleum jelly make it safe for use on inflamed skin. Fourth, petroleum jelly can increase endogenous antimicrobial peptide production in the skin, indirectly providing protection against pathogenic bacterial colonization such as Staphylococcus aureus (Wahidah et al., 2023).

Regarding personal hygiene, according to Pae et al. (2023), research at Panti Werda Surya Surabaya with 50 respondents found a significant relationship between personal hygiene actions and quality of life of the elderly ($p = 0.005$; $r = 0.389$). The elderly with good personal hygiene had better quality of life than those with poor personal hygiene. According to Amanda et al. (2025), chi-square test results showed p-value 0.000 (<0.05), indicating a significant relationship between personal hygiene and dermatitis occurrence. The worse the personal hygiene, the higher the risk of experiencing dermatitis.

Nursing Evaluation

Overall evaluation results over 4 days showed that the nursing outcome of improved skin integrity was partially achieved. This was indicated by increased skin moisture, reduced lesions, decreased redness, and reduced pruritus complaints. However, abnormal pigmentation had not been resolved. This is because pigmentation is caused by increased melanin production, while petroleum jelly cannot inhibit melanin production. Intervention still needs to be continued for optimal recovery.

The combination of petroleum jelly administration and personal hygiene improvement proved effective in improving the skin condition of elderly patients with atopic dermatitis. This is consistent with the findings of Wahidah et al. (2023), which showed that nursing care for 4 consecutive days demonstrated progressive improvement in skin condition. This therapy will not be optimally successful if the elderly do not maintain personal hygiene and environmental cleanliness.

CONCLUSIONS

Based on the results of the case study, it can be concluded that: (1) The priority nursing diagnosis in the patient was impaired skin integrity (SDKI-D.0129) related to the aging process; (2) The main intervention was skin integrity care (SIKI-I.11353) with petroleum jelly administration and personal hygiene support: bathing (SIKI-I.11352) with the outcome of improved skin integrity (SLKI-L.14125); (3) Implementation was carried out 2 times daily for 4 days; (4) Evaluation results showed changes in skin integrity after 4 days of implementation, characterized by increased skin moisture, reduced lesions and redness, and decreased pruritus complaints. Abnormal pigmentation had not been resolved as

petroleum jelly cannot inhibit melanin production.

Recommendations: Elderly patients with atopic dermatitis are advised to maintain daily personal hygiene and apply petroleum jelly regularly at least 2 times per day after bathing to maintain skin moisture. Nurses should incorporate the combination of personal hygiene care and petroleum jelly administration as part of routine interventions in elderly nursing care, particularly for atopic dermatitis. Nursing homes are advised to adopt petroleum jelly use as a routine skin care intervention for elderly residents, both as prevention and treatment of atopic dermatitis.

BIBLIOGRAPHY

Agrawal, R., Hu, A., & Bollag, W. B. (2023). The skin and inflamm-aging. Biology, 12(11), 1396. https://doi.org/10.3390/biology12111396

Amanda, M., Andini, S., & Erwin, T. (2025). Hubungan personal hygiene dengan kejadian penyakit dermatitis. Journal of Qualitative Health Research & Case Studies Reports, 5(3), 241–251.

Aryani, D. F., & Utami, F. R. (2019). Studi kasus: Analisis intervensi pemberian petroleum jelly pada masalah keperawatan gangguan rasa nyaman pada pasien gagal ginjal kronis dengan pruritus umum. JIKO (Jurnal Ilmiah Keperawatan Orthopedi), 3(2), 70–73.

Carlos, R. (2018). Asuhan keperawatan lansia Tn. CA dengan dermatitis di Wisma Cemara UPT Panti Sosial Penyantun Lanjut Usia Budi Agung Kupang.

Hidayah, N. (2021). Personal hygiene dan kondisi kulit pada lansia. Jurnal Keperawatan Indonesia, 14(2), 55–62.

Kamrani, P., Hedrick, J., Marks, J. G., & Zaenglein, A. L. (2024). Petroleum jelly: A comprehensive review of its history, uses, and safety. Journal of the American Academy of Dermatology, 90(4), 807–813.

Kemenkes RI. (2020). Data dan Informasi Profil Kesehatan Indonesia 2020. Jakarta: Kementerian Kesehatan RI.

Lichterfeld-Kottner, A., et al. (2020). Maintaining skin integrity in the aged: A systematic review. International Journal of Nursing Studies, 103. https://doi.org/10.1016/j.ijnurstu.2019.103509

Maudani, A. S., et al. (2020). Analisis spasial penyakit dermatitis di Puskesmas Labakkang Kabupaten Pangkep. Journal Ikesma, 16(1).

Nur Chasanah, F., Isma Sundari, R., & Netra Wirakhmi, I. (2021). Gambaran perilaku personal hygiene pada lansia. Seminar Nasional Penelitian Dan Pengabdian Kepada Masyarakat (SNPPKM), 819–827.

Pae, K., et al. (2022). Tindakan kebersihan diri dan kualitas hidup lansia yang tinggal di panti. Jurnal Ners Lentera, 10(2), 68–74.

PPNI. (2018). Standar Diagnosa Keperawatan Indonesia (SDKI) (1st ed.). Jakarta: DPP PPNI.

PPNI. (2018). Standar Intervensi Keperawatan Indonesia (SIKI) (1st ed.). Jakarta: DPP PPNI.

PPNI. (2018). Standar Luaran Keperawatan Indonesia (SLKI) (1st ed.). Jakarta: DPP PPNI.

Wahidah, S. N., Kurdi, F., Aini, L. S., & Pamukti, G. S. (2023). Nursing care analysis of skin integrity disorders patients with petroleum jelly therapy at elderly nursing home Jember. Caring: Jurnal Keperawatan, 11(2), 46–55.

World Health Organization. (2020). World Health Statistics: Monitoring Health for the SDGs. Geneva: WHO.