

INTISARI

Latar belakang: Kulit kering (*xerosis cutis*) merupakan salah satu dermatosis yang umum ditemukan pada populasi lanjut usia (lansia). Kulit kering pada lansia disebabkan oleh adanya gangguan proliferasi dan diferensiasi keratinosit, penurunan kadar lipid serta penurunan *natural moisturizing factor* (NMF) pada stratum korneum (SK). Vitamin D (VD) memiliki peran dalam memperbaiki sawar kulit. Kadar serum VD yang tinggi dikaitkan dengan tingkat hidrasi kulit yang lebih baik. Pemberian vitamin D3 (VD3) topikal diharapkan dapat meningkatkan hidrasi kulit dan kadar serum VD pada lansia. Penelitian ini merupakan kajian pertama penilaian efektivitas pemberian losion VD3 terhadap kulit kering dan kadar serum VD pada lansia.

Tujuan: Untuk mengetahui efektivitas pemberian losion VD3 dosis 5000 IU dalam meningkatkan kelembapan kulit dan kadar serum VD pada populasi lansia.

Metode: Penelitian ini merupakan uji acak terkendali buta ganda terhadap populasi lansia dengan kulit kering. Subjek dibagi ke dalam tiga kelompok yaitu kelompok losion VD3 5000 IU, kelompok losion VD3 1000 IU dan kelompok losion basis. Penilaian dilakukan dengan menilai skor kulit kering berupa *scale, roughness, redness, crack/ fissures* (SRRC), *transepidermal water loss* (TEWL), dan *skin capacitance* pada minggu ke-0, 4, 8 dan 12 serta pengukuran kadar serum VD sebelum dan setelah perlakuan. Analisis statistik dilakukan untuk melihat perbandingan efektivitas pemberian losion sebelum dan sesudah perlakuan.

Hasil: Sebanyak 48 subjek terbagi ke dalam tiga kelompok yaitu kelompok losion VD3 5000 IU, kelompok losion VD3 1000 IU dan kelompok losion basis dengan jumlah masing-masing 16 subjek. Evaluasi pada minggu ke-12 didapatkan penurunan skor SRRC dan nilai TEWL pada ketiga kelompok namun nilai perbandingan perubahan rerata antar ketiga kelompok secara statistik tidak signifikan ($p > 0,05$). Tingkat hidrasi kulit didapatkan meningkat dimana pada kelompok pemberian losion VD3 5000 IU memiliki nilai perubahan yang paling tinggi ($p = 0,058$). Kadar serum VD didapatkan menurun dengan nilai penurunan paling kecil pada kelompok pemberian losion VD3 5000 IU. Tidak didapatkan perbedaan derajat efek samping pada pemberian losion VD3 5000 IU, losion VD3 1000 IU dan losion basis.

Kesimpulan: Pemberian losion VD3 5000 IU dapat menurunkan skor kulit kering, menurunkan nilai TEWL, dan meningkatkan hidrasi kulit namun tidak lebih efektif dibandingkan kelompok pemberian losion 1000 IU maupun losion basis. Pemberian losion VD3 5000 IU tidak lebih efektif dalam meningkatkan kadar serum VD, namun berdasarkan kemaknaan klinis dapat mempertahankan kadar serum VD pada subjek penelitian. Tidak didapatkan adanya perbedaan derajat efek samping pada ketiga kelompok.

Kata kunci: Losion vitamin D3, hidrasi kulit, kulit kering, serum vitamin D, geriatri.

ABSTRACT

Background: Dry skin (xerosis cutis) is one of the most common dermatoses found in geriatric population. Dry skin in geriatric is caused by disturbances in the regulation of keratinocyte proliferation and differentiation, decreased lipid and natural moisturizing factor (NMF) levels in stratum corneum (SK). Vitamin D (VD) has a role in repairing the skin barrier. High serum VD levels are associated with better levels of skin hydration. Topical administration of vitamin D3 (VD3) is expected to increase skin hydration levels and increase serum VD levels in geriatric. This study is the first study to assess the effectiveness of VD3 losion on dry skin and serum VD levels in the geriatric population.

Objective: The purpose of this study was to determine the effectiveness of giving 5000 IU VD3 losion in increasing skin moisture and VD serum levels in the geriatric population.

Method: This study is a double blind randomized controlled trial of the geriatric population with dry skin. Subjects were divided into three groups, namely the VD3 5000 IU losion group, the 1000 IU VD3 losion group and the placebo losion group. Objective assessment was carried out by assessing dry skin score comprise of *scale, roughness, redness, crack/fissures* (SRRC), transepidermal water loss (TEWL), and skin capacitance at weeks 0, 4, 8 and 12 as well as measurement of serum VD levels before and after. after treatment. Statistical analysis was carried out to compare the effectiveness of giving losion before and after treatment.

Result: A total of 48 subjects were divided into three groups, namely the VD3 5000 IU losion group, the 1000 IU VD3 losion group and the placebo losion group with 16 subjects each. Evaluation at week 12 found a decrease in SRRC scores and TEWL scores in the three groups but the comparison value of the mean change between the three groups was not statistically significant ($p > 0.05$). The level of skin hydration was found to increase where the 5000 IU VD3 losion group had the highest change value ($p = 0.058$). The serum level of VD was found to decrease with the smallest value in the group receiving VD3 5000 IU losion. There were no difference in the degree of side effects on VD3 5000 IU losion, 1000 IU VD3 losion and placebo losion administration.

Conclusion: Administration of 5000 IU VD3 lotion may decrease dry skin scores, decrease TEWL value, and increase skin hydration level but is not more effective than the 1000 IU VD3 lotion or placebo lotion group. Administration of 5000 IU VD3 lotion was not more effective in increasing VD serum levels, but based on clinical significance it was able to maintain VD serum levels in treatment subjects. There were no difference in the degree of side effects in all groups.

Keyword: Vitamin D3 lotion, skin hydration, dry skin, vitamin D serum, geriatric.