

# Perbandingan Efektivitas Natrium Klorida 0,9%, Vaseline Album, dan Alkohol 70% sebagai Bahan Topikal pada Prosedur Pelepasan Perekat Medis dalam Mengurangi Kejadian Medical Adhesive-Related Skin Injury pada Kulit Lanjut Usia = Comparison of 0.9% Sodium Chloride, Vaseline Album, and 70% Alcohol as Topical Agents in Reducing Medical Adhesive-Related Skin Injury Due to Acrylic Medical Adhesives Removal in Geriatrics

Jhauharina Rizki Fadhillah, author

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## Abstrak

Pelepasan perekat medis pada lanjut usia (lansia) berisiko tinggi menyebabkan medical adhesive-related skin injury (MARSİ). Pemberian bahan topikal, NaCl 0,9%, vaselin album, dan alkohol 70%, dalam proses pelepasan diduga dapat mengurangi adhesi kulit dengan plester. Untuk mengetahui apakah penambahan bahan-bahan tersebut dalam prosedur pelepasan perekat medis berbahan dasar akrilat efektif mengurangi kejadian MARSİ pada lansia, suatu uji klinis acak tersamar tunggal dilakukan pada penghuni sebuah panti werdha di Jakarta. Subjek yang dipilih berdasarkan kriteria penerimaan (usia 3 60 tahun) dan penolakan (tidak memiliki kelainan kulit, tidak menggunakan obat antiinflamasi, immunosupresan, antihistamin, atau tidak ada riwayat alergi terhadap plester dan bahan uji) serta bersedia berpartisipasi menjalani penempelan perekat medis akrilat pada empat lokasi di kedua tungkai atas sisi ekstensor. Sejumlah 75 orang subjek penelitian (SP) dengan 300 lokasi uji terpilih berdasarkan teknik convenience sampling dan mengikuti seluruh rangkaian prosedur hingga penelitian selesai. Pada hari ketiga, perekat dilepas dengan atau tanpa penambahan bahan topikal sesuai dengan kode randomisasi yang tidak diketahui oleh peneliti (blinding). Perubahan skor skin irritation scoring systems (SISS), nilai transepidermal water loss (TEWL), dan indeks eritema pada mexameter yang merupakan parameter MARSİ diukur pada tiap-tiap lokasi uji. MARSİ teramati pada 52% SP atau 20,7% lokasi perlakuan (26,7% NaCl 0,9%, 20% vaselin album, 17,3% alkohol 70%, dan 18,7% kontrol;  $p=0,501$ ). Perubahan skor SISS dan indeks eritema antar kelompok tidak bermakna secara statistik. Perubahan nilai TEWL lebih kecil pada kelompok perlakuan NaCl 0,9% (1 g/m<sup>2</sup>/jam;  $p<0,001$ ) dan vaselin album (1 g/m<sup>2</sup>/jam;  $p<0,001$ ) dibandingkan kontrol. Disimpulkan bahwa penambahan bahan topikal dalam proses pelepasan perekat medis akrilat di hari ketiga pada kulit lansia tidak terbukti mengurangi kejadian MARSİ. Tetapi, penambahan NaCl 0,9% dan vaselin album secara bermakna mengurangi kerusakan sawar kulit yang ditimbulkannya. Waktu pengamatan penelitian ini sangat pendek karena dilakukan dalam masa pandemi Covid-19 untuk membatasi interaksi dengan lansia sebagai populasi rentan. Penelitian lebih lanjut diperlukan karena MARSİ umumnya terjadi setelah pemakaian jangka panjang dan berulang.

.....The removal of medical adhesives in the elderly risks causing medical adhesive-related skin injury (MARSİ). Application of topical agents, 0.9% NaCl, vaseline album, or 70% alcohol, could possibly reduce adhesion between the skin and the tape. To determine if application of 0.9% NaCl, vaseline album, or 70% alcohol while removing medical adhesives was effective in reducing MARSİ in geriatrics, a randomized, single-blind trial was conducted in a nursing home in Jakarta. Subjects were recruited based on inclusion (age 360 years old) and exclusion criteria (having no skin disorder, not taking anti-inflammatory drugs,

immunosuppressants, or antihistamines, and not known allergy to adhesives and the topical agents). Seventy-five subjects gave consent to this study. Acrylic medical adhesives were applied on four areas on extensor thighs. On day three, they were removed with or without using the topical agents based on randomized allocation code unknown to the investigators. Changes in MARSIS parameters, i.e. skin irritation scoring systems (SISS), transepidermal water loss (TEWL), and erythema index by mexameter were measured in each of trial area. MARSIS was observed in 52% subjects or 20.7% areas (26.7% 0.9% NaCl, 20% vaselin album, 17.3% 70% alcohol, and 18.7% control;  $p=0,501$ ). Change in SISS score and erythema index among experimental groups were not statistically significant. The change of TEWL value was significantly smaller in 0.9% NaCl group ( $1 \text{ g/m}^2/\text{hour}$ ;  $p<0,001$ ) and vaselin album ( $1 \text{ g/m}^2/\text{hour}$ ;  $p<0,001$ ) than control. We concluded that application of topical agents in aiding acrylic medical adhesive removal on day three in the elderly was not proven to reduce MARSIS. However, the addition of 0.9% NaCl or vaselin album was shown to confer significantly less damage to the skin barrier. The observation time was very short due to Covid-19 pandemic to limit interaction with the elderly as vulnerable population. Further research is needed to confirm these preliminary findings before they can be generalized because MARSIS prevention generally occurs after long-term use and repeated removal. <i/>