

INTISARI

Deterjen merupakan kebutuhan di hampir setiap rumah tangga baik di negara maju maupun berkembang. Deterjen bubuk mengandung surfaktan yang dapat menyebabkan gangguan fungsi barier yang akhirnya menimbulkan efek iritasi. Penelitian ini bertujuan untuk mengetahui perbedaan efek iritasi berbagai deterjen bubuk yang umum digunakan di Indonesia dan korelasi antara derajat pH deterjen bubuk dengan efek iritasi yang ditimbulkan.

Rancangan penelitian berupa *quasi experimental* dan buta ganda. Dua puluh delapan subyek yang memenuhi kriteria mendapat perlakuan uji iritasi satu kali sehari 20 menit selama 7 hari berturut-turut dengan metode ROAT. Penilaian efek iritasi berdasarkan skor visual dan persen selisih skor TEWL setelah dan sebelum uji iritasi. Perbedaan efek iritasi pada berbagai merek dan pH deterjen bubuk dianalisis dengan uji *Kruskal-Wallis*. Perbedaan efek iritasi antar deterjen bubuk dan antar derajat pH dianalisis dengan uji *Mann-Whitney*. Korelasi antara derajat pH deterjen bubuk dengan efek iritasi yang ditimbulkan dianalisis dengan uji *Spearman*.

Hasil penelitian ini menunjukkan 5 deterjen bubuk yang umum digunakan di Indonesia memiliki tingkat efek iritasi yang berbeda bermakna secara statistik ($p < 0,05$). Terdapat korelasi positif yang bermakna antara pH deterjen bubuk dengan efek iritasi yang ditimbulkannya, semakin tinggi pH deterjen bubuk maka akan semakin besar pula efek iritasinya. Berdasarkan hasil penelitian dapat disimpulkan berbagai merek deterjen bubuk memiliki efek iritasi yang berbeda dan terdapat korelasi antara derajat pH dengan efek iritasi.

Kata kunci : *deterjen bubuk, pH, dermatitis kontak iritan, efek iritasi, skor visual, transepidermal water loss*

ABSTRACT

Detergents are used by almost every household, both in developed or in developing countries. Powder detergent contains surfactant which may cause skin barrier disruption and leads to irritation. This study aims to investigate the difference between irritation effect of various commonly used powder detergents in Indonesia as well as the correlation between powder detergent's pH with the irritation effect it causes.

Design of this study is quasi experimental and double blinded. Twenty eight eligible subjects underwent irritation test once a day for 20 minutes in 7 consecutive days with repeated open application test method. Assessment of irritation effect was based on visual score and transepidermal water loss score percent difference, after and before irritation test. Difference of irritation effect for various brand and pH of powder detergents was analysed using Kruskal-Wallis test. Difference of irritation effect between powder detergents and between pH levels was analysed using Mann-Whitney test. Correlation between pH levels of powder detergents with emerging irritation effect was analysed with Spearman test.

Result of this study reveals five most commonly used powder detergents in Indonesia has statistically significant different level of irritation effect ($p < 0,05$). There was a significant positive correlation between pH of powder detergent with the irritation effect it causes, the higher the pH level of powder detergent, the higher the irritation effect will be. Based on the result of this study, we may conclude that various brands of powder detergents brings different irritation effect as there is an correlation between pH level of the detergents with the irritation effect.

Keywords: *powder detergents, pH, irritant contact dermatitis, irritation effect, visual score, transepidermal water loss*