The Efficacy of Vinyl Fabric for Protecting House Dust Mites and their Allergens

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Abstract

Purpose: Dust mites and their allergens are one of the major causes of allergic diseases. One of the effective and easy methods for controlling them and their allergens is to encase the beddings with plastic, vinyl leather and mite-proof fabrics. While some of those materials are expensive, vinyl fabric is an interesting choice due to its competitive characteristics of being cheaper, softer, and thinner. The study aimed to compare the efficacy of vinyl fabrics and mite-proof covers as well as ordinary cotton in preventing house dust mites.

Design: Laboratory experimental research.

Methods: The techniques of heat escape, mite culture and enzyme-linked immunosorbent assay were used to test the efficacy of target materials in preventing the penetration of dust mites and mite allergen.

Main findings: The study revealed that both new and used vinyl fabrics could completely (100%) prevent the penetration of dust mites and block the mite allergen as similar as the mite-proof cover, whereas the mite-proof covers and ordinary cotton bed-sheet could prevent only 99.43% and 89.59%, respectively.

Conclusion and recommendations: The vinyl fabric is a new and interesting choice for preventing allergic patients from mites and mite allergens. Nurses can provide this innovative finding as an alternative way for allergic patients, especially those with low income. Further investigation on the efficacy of vinyl fabric with various quality and the patient's satisfaction towards the bed encasing of the vinyl fabric are recommended.

Keywords: allergy, dust mites, mite allergen, mite-proof covers, vinyl fabric


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