

Effects of nonsedative antihistamines on productivity of patients with pruritic skin diseases

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The symptoms associated with allergic diseases are recognized to exert a negative social and economic impact on patients as a result of impairments in work productivity (1, 2). Similar negative effects are experienced by patients with skin diseases such as chronic idiopathic urticaria, psoriasis, and chronic hand dermatitis (3–5). However, the consequences of pruritic skin diseases on productivity at work, in the classroom, and in daily activities are not fully understood. We assessed the impact of pruritic skin disease (e.g., dermatitis/eczema, urticaria, atopic dermatitis (AD), pruritus cutaneous) – as well as the effect of antihistamine therapy – on work, classroom, and daily productivity. In addition, we evaluated the effects of antihistamines on the intensity of itch and patient's quality of life (QOL).

The study design was approved by the Institutional Review Board, and patients with pruritic skin diseases ($n = 206$; male : female = 93 : 113; mean age $\pm$ SD: 52 ± 20 years) gave informed consent to participate in this study. Participants received no medical attention during the week before study

initiation. The selection of therapy for each patient – i.e., oral antihistamines versus external medicine (e.g., steroid ointments, tacrolimus ointments, and certain moisturizers) – was left to the physician's discretion (open-label trial). The antihistamines fexofenadine ($n = 72$) and loratadine ($n = 2$), for which the package insert contained no cautionary statement regarding sedative actions, were categorized as 'nonsedative'. All other antihistamines were classified as 'sedative'. The effects of pruritic skin diseases on QOL were measured using the Skindex-16 instrument, and the magnitude of the itch sensation was assessed using a visual analog scale (VAS) (0–100). Work, classroom, and daily productivity were assessed by

means of the Work Productivity-Activity Impairment-Allergy Specific (WPAI-AS) instrument (6). These instruments were self-administered by patients before (baseline) and 1 month after treatment initiation.

Based on the average baseline WPAI-AS scores for different diseases, pruritic skin diseases produced impairments in overall productivity in the workplace, classroom, and daily life activity of $39.3 \pm 26.5\%$, $45.0 \pm 28.9\%$, and $42.3 \pm 25.1\%$, respectively. No significant differences between disease groups were identified at baseline. Patients in this study were treated for 1 month with oral antihistamines, with the exception of 11 patients who received only with topical medications. Nonsedative antihistamines

Impaired work productivity in patients with pruritic skin diseases is improved significantly by nonsedative antihistamines.

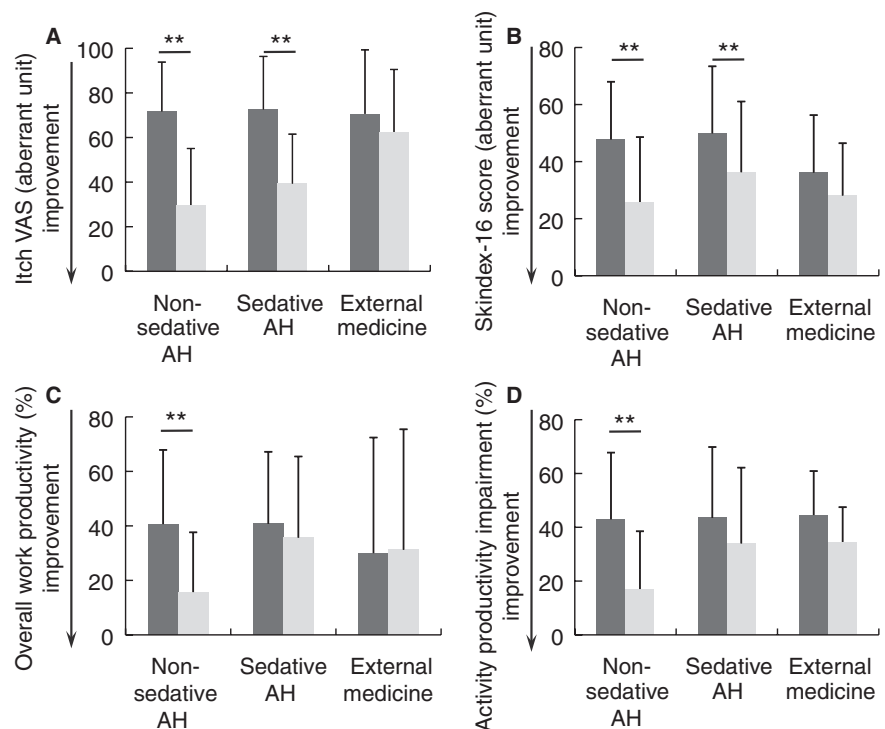


Figure 1. The impact of antihistamines on (A) itch visual analog scale, (B) skindex-16 score, (C) overall work productivity impairment, and (D) daily activity productivity impairment. The data for baseline (dark gray bars) and post-treatment assessment (light gray bars) are shown as mean $\pm$ SD. **Statistically significant improvement compared to baseline assessment ($P < 0.001$, one-sample t -test). AH, antihistamines.

were given to 74 patients, and the remaining 121 patients were treated with sedative antihistamines. The effects of these treatments on the intensity of itch, the Skindex-16 QOL score, overall work productivity, and daily activity productivity are shown in Fig. 1. As expected, itch intensity was reduced significantly by antihistamine therapy, while external medicines were ineffective (Fig. 1A). The effects of nonsedative and sedative antihistamines on itch intensity were similar (Fig. 1A). The effects of all treatments on the Skindex-16 QOL measure were similar to those for the itch VAS, with significant improvement from all antihistamines, but not for topical medications (Fig. 1B). As anticipated, impairments in overall work productivity and daily activity productivity were reduced significantly by nonsedative antihistamines, whereas sedative antihistamines failed to improve either measure (Fig. 1C,D).

Our results indicated that pruritic skin diseases negatively impact WPAI-AS scores at baseline. Sedative antihistamines fail to reduce work productivity impairment, despite decreasing itch VAS and Skindex-16 measures. Thus, clinicians should be aware of the potential to overestimate the benefits of sedative antihistamines on work productivity if they rely solely on patient intensity of itch and QOL values. In conclusion, this report highlights benefits in patient productivity as a new goal in the treatment

of pruritic skin diseases and provides a rationale for shifting the choice of treatment to nonsedative antihistamines.

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