

Examining the Relationships Among Abrocitinib Treatment, Itch, Skin Pain, and Work and Activity Impairments in Patients With Atopic Dermatitis: A Mediation Modeling Analysis

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Introduction, Objective, and Mediation Analysis

Introduction

- Itch and skin pain are common and bothersome symptoms of AD¹⁻³
- Abrocitinib is an oral, once-daily, JAK1-selective inhibitor approved for the treatment of moderate-to-severe AD⁴⁻⁷
- Abrocitinib resulted in improvements in skin clearance and rapid itch reduction across multiple phase 3 studies⁸⁻¹²
 - Greater improvements in activity and work productivity were associated with abrocitinib compared with placebo in the phase 3 JADE MONO-2 trial (NCT03575871)¹³
- The mechanism(s) through which abrocitinib treatment results in reductions in work and activity impairment are unknown

Objective

- To describe the relationships among abrocitinib treatment, itch, skin pain, and work productivity loss and activity impairment using a mediation modeling analysis in patients with AD

Mediation Analysis

- Data from adult patients treated with abrocitinib monotherapy (200 mg or 100 mg) or placebo in JADE MONO-2 were included in this analysis
- Outcome variables
 - Work productivity loss and activity impairment (separate scores) as measured by the WPAI-AD 2.0
- Mediator variables
 - Itch, evaluated using PSAAD item no. 1 (“How itchy was your skin over the past 24 hours?”)^a
 - Skin pain, evaluated using PSAAD item no. 2 (“How painful was your skin over the past 24 hours?”)^b
- Mediation modeling was conducted independently for work productivity loss and activity impairment
- All available data at week 12 were used in the modeling
- Effects with $P < 0.05$ were considered statistically significant

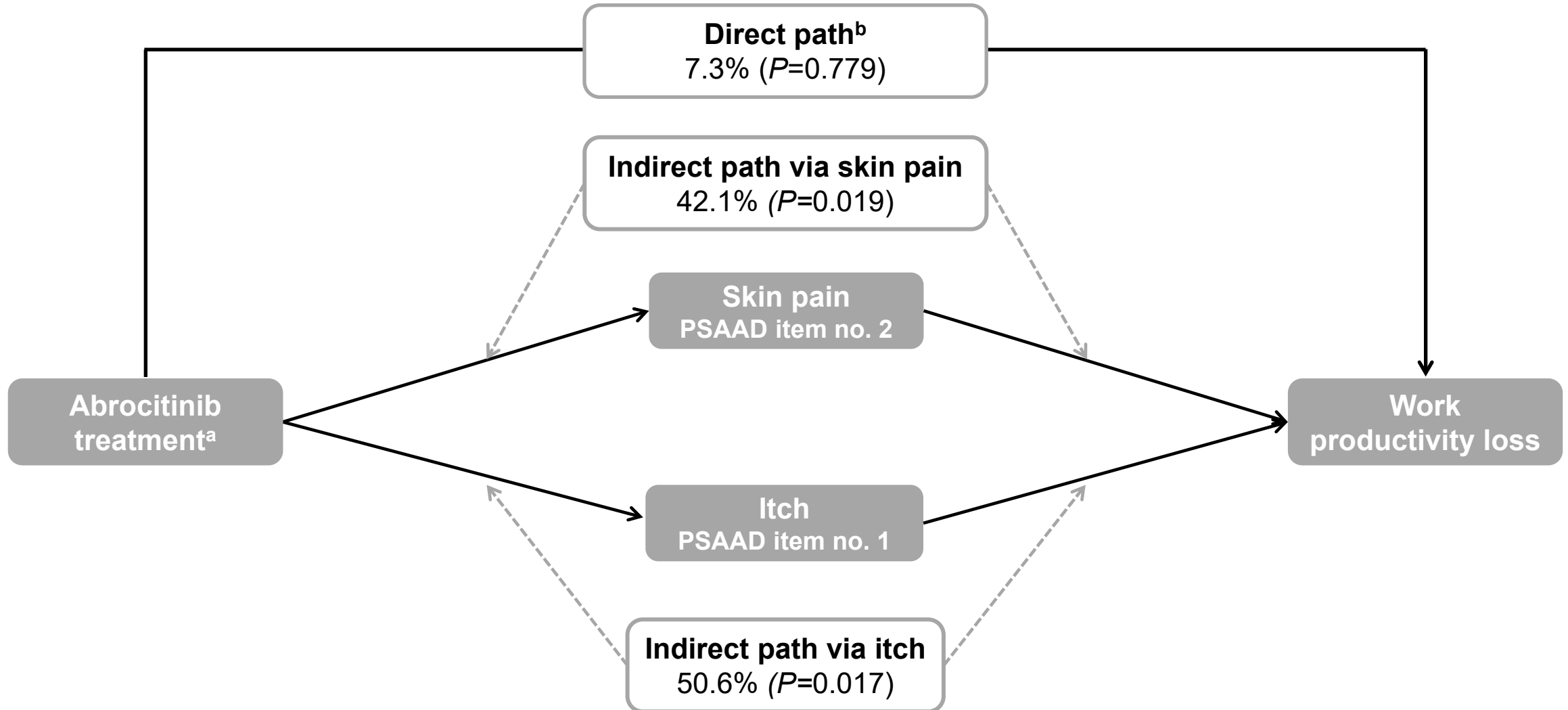
^aOn an 11-point NRS ranging from 0 (not itchy) to 10 (extremely itchy); ^bOn an 11-point NRS ranging from 0 (not painful) to 10 (extremely painful).

AD, atopic dermatitis; JAK1, Janus kinase 1; NRS, numerical rating scale; PSAAD, Pruritus and Symptoms Assessment for Atopic Dermatitis (© 2016 Pfizer Inc. All rights reserved); WPAI-AD 2.0, Work Productivity and Activity Impairment Questionnaire: Atopic Dermatitis, version 2.0.

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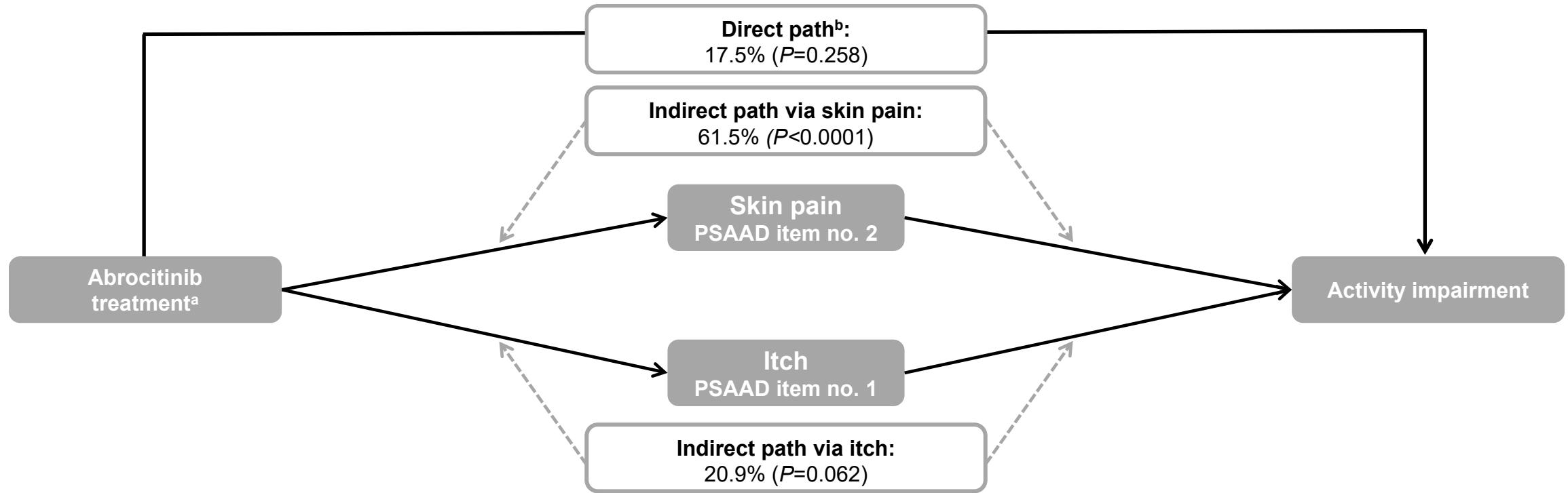
Abrocitinib Affects Work Productivity Loss Indirectly Through Reduction in Skin Pain and Itch



^aAbrocitinib treatment is a binary variable representing abrocitinib versus placebo.

^bDirect path represents the effects of other factors not included in the model.

Abrocitinib Affects Activity Impairment Mostly Indirectly Through Reduction of Skin Pain



Conclusions

- The indirect effect of abrocitinib treatment on work productivity loss is mediated approximately equally through the reduction in skin pain and itch
- The effect of abrocitinib treatment on activity impairment is mostly mediated indirectly through the reduction of skin pain, with a smaller indirect contribution from the reduction in itch
- Findings from this mediation analysis support further research into the extent that patients may consider itch and skin pain to be separate concepts in terms of their impact on work productivity and activity impairment