

A Longitudinal Study of Quality of Life and Depression in Patients with Hidradenitis Suppurativa

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Objective

To characterize the association between psychosocial outcomes, health-related quality of life (HRQoL), and disease activity (flares) in a prospective longitudinal hidradenitis suppurativa (HS) cohort.

Background

- Symptoms of HS are associated with increased anxiety, depression, and negative impacts on HRQoL.
- However, it remains unclear whether these psychosocial factors fluctuate with changes in HS disease activity.

Methods

- Patients with HS were recruited (September 2023–February 2025) from Stanford healthcare dermatology clinics and completed weekly psychosocial questionnaires for up to 16 weeks.
 - Depression was assessed using the Patient Health Questionnaire 2 (PHQ-2); PHQ-2 score >2 has been validated for screening depression.¹
 - Anxiety was assessed using the Generalized Anxiety Disorder 2 (GAD-2) questionnaire; GAD-2 score >3 has been validated for screening anxiety.
 - HRQoL was assessed using the Dermatology Life Quality Index (DLQI), where increase in DLQI indicates worsening during flares.
- Patients also self-reported measures of lesion count, pain, flare status, HS severity, medications, and stress for up to 16 weeks.
- Odds ratios (OR) for patients with HS flares were analyzed using a symptom-factor expanded, generalized estimating equation (GEE) ordinal regression model.
- Flare predictors were assessed using a hierarchical Bayesian mixed effects model; an adjusted model was utilized to account for collinearity.

Results

- 107 patients with HS were enrolled; patient demographics are reported in [Table 1](#).
- During flares, 69.8% of patients experienced increases in depression ([Figure 1A](#)), while 74.6% of patients had increased anxiety ([Figure 1B](#)).
 - Patients with HS flares had ORs of 1.81 (CI: 0.93–3.54; p=0.08) for PHQ-2 score >3 and 1.04 (CI: 0.65–1.66; p=0.87) for GAD-2 score >3 compared with non-flaring patients, indicating increased likelihood of major depressive disorder.
- During flares, 93.7% of patients reported increases in DLQI scores ([Figure 2](#)).
 - Patients with HS flares had an OR of 2.69 (CI: 1.45–4.99; p=0.0017) for elevated DLQI, compared with non-flaring patients.
- Patients with PHQ score >3 had higher odds of reporting flares (OR 1.76, 95% CI: 0.74–4.17; p=0.21); this was less pronounced for PHQ score >2 (OR 1.51, 95% CI: 0.69–3.29; p=0.29), from the mixed effects model.
- The adjusted model demonstrated that pain and active lesion count were the most relevant predictors of flare (p-corrected <0.001), while itch (p-corrected=0.26) and PHQ scores (p-corrected=0.23) were not significant ([Figure 3](#)).

Conclusions

HS flares significantly impact both mental health and quality of life. Pain and lesion count were demonstrated to be key flare indicators, as seen from the mixed-effects model.

The two modelling approaches demonstrate the uni-directional correlation of flares with psychosocial scores, which indicate the impact of flares on the wellbeing of patients with HS.

These data highlight the need for comprehensive symptom management in HS to reduce psychosocial burden.

Plain Language Summary



Why was this study needed?

Hidradenitis suppurativa (HS) is linked with worse mental health and quality of life.



What did this study show?

Most patients with HS had worse mental health and quality of life during flare-ups.



Why is this important?

Flare-ups of HS can seriously affect the mental health and daily life of patients.

Treatments that control HS symptoms, such as pain and number of skin lesions, could help reduce the impact on mental health and quality of life.

Table 1 Patient demographics

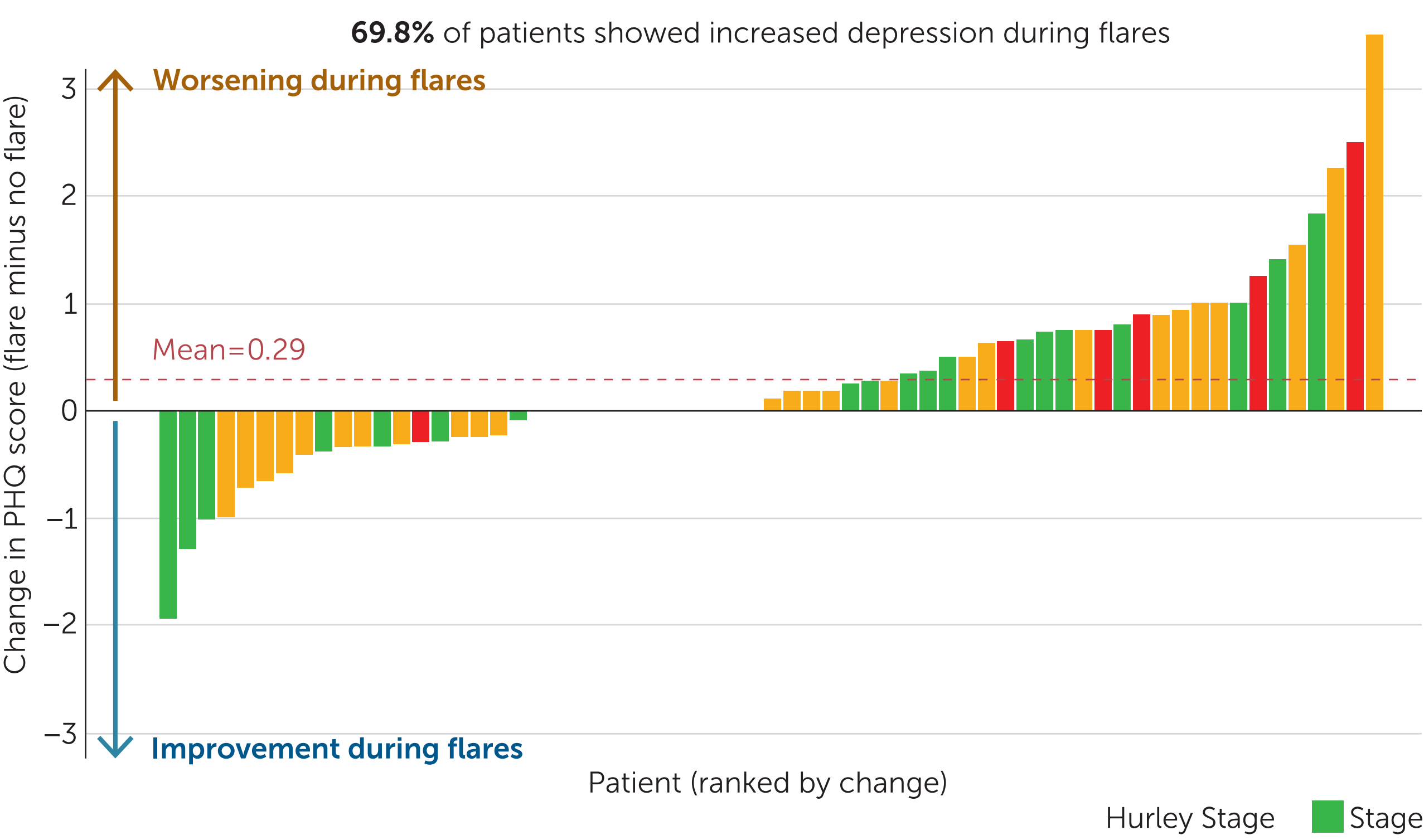
	Patients N=107
Age, years, mean (range)	35.2 (19–69)
Sex, n (%)	
Female	83 (77.6)
Male	20 (18.7)
Other	4 (3.7)
Ethnicity, n (%)	
Hispanic/Latino	34 (31.8)
Black/African American	14 (13.1)
White	33 (30.8)
Asian	27 (25.2)
Other	7 (6.5)
Hurley Stage, n (%)	
Hurley Stage I	36 (34.0)
Hurley Stage II	51 (48.1)
Hurley Stage III	19 (17.9)

CI: confidence interval; DLQI: Dermatology Life Quality Index; GAD-2: Generalized Anxiety Disorder 2; GEE: generalized estimating equation; HRQoL: health-related quality of life; HS: hidradenitis suppurativa; OR: odds ratio; PHQ-2: Patient Health Questionnaire 2; QoL: quality of life.

References: ¹Levis B et al. JAMA. 2020;323(22):2290–2300. **Author Contributions:** Substantial contributions to study conception/design, or acquisition/analysis/interpretation of data: SC, HA-T, VH, TT, JR, JK, KY, LZ, MAA, MNN, KYS. Drafting of the publication, or reviewing it critically for important intellectual content: SC, HA-T, VH, TT, JR, JK, KY, LZ, MAA, MNN, KYS. Final approval of the publication: SC, HA-T, VH, TT, JR, JK, KY, LZ, MAA, MNN, KYS. **Author Disclosures:** SC, VH, JR, JK, KY, LZ: None. KYS: Research funding from UCB. HA-T, TT, MNN: Research funding from UCB. MAA: Consulting fees from Santa Ana Bio; advisory board for Novartis; research funding from UCB. **Acknowledgments:** These studies were funded by UCB. We thank the patients and their caregivers in addition to the investigators and their teams who contributed to this study. The authors acknowledge Susanne Wiegandt, MSc, UCB, Monheim am Rhein, Germany for publication coordination, Shimala Siddiqui, MSc, MBA, Costello Medical, Manchester, UK for medical writing and editorial assistance and the Costello Medical Creative team for design support. All costs associated with development of this poster were funded by UCB.

Figure 1 Change in A) depression and B) anxiety scores during HS flares

A) Change in depression scores during flares



Waterfall plot showing the difference between flare and non-flare scores (flare minus non-flare) for (A) depression (PHQ-2) and (B) anxiety (GAD-2) (n=67). Bars above zero indicate worsening during flares. Red dotted lines represent mean change across all patients. Patients showed increased depression and anxiety scores while flaring, regardless of their Hurley Stage.

B) Change in anxiety score during flares

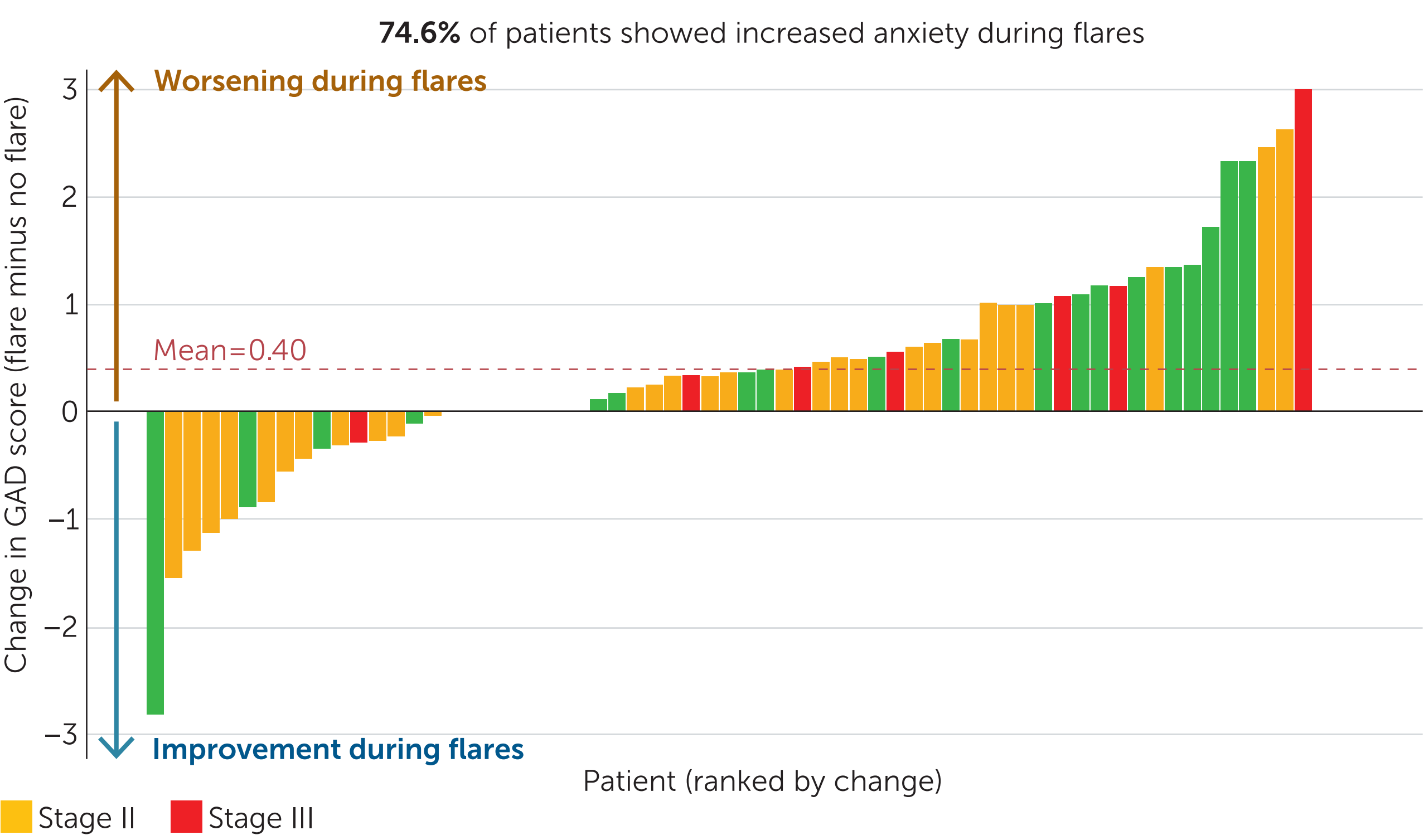
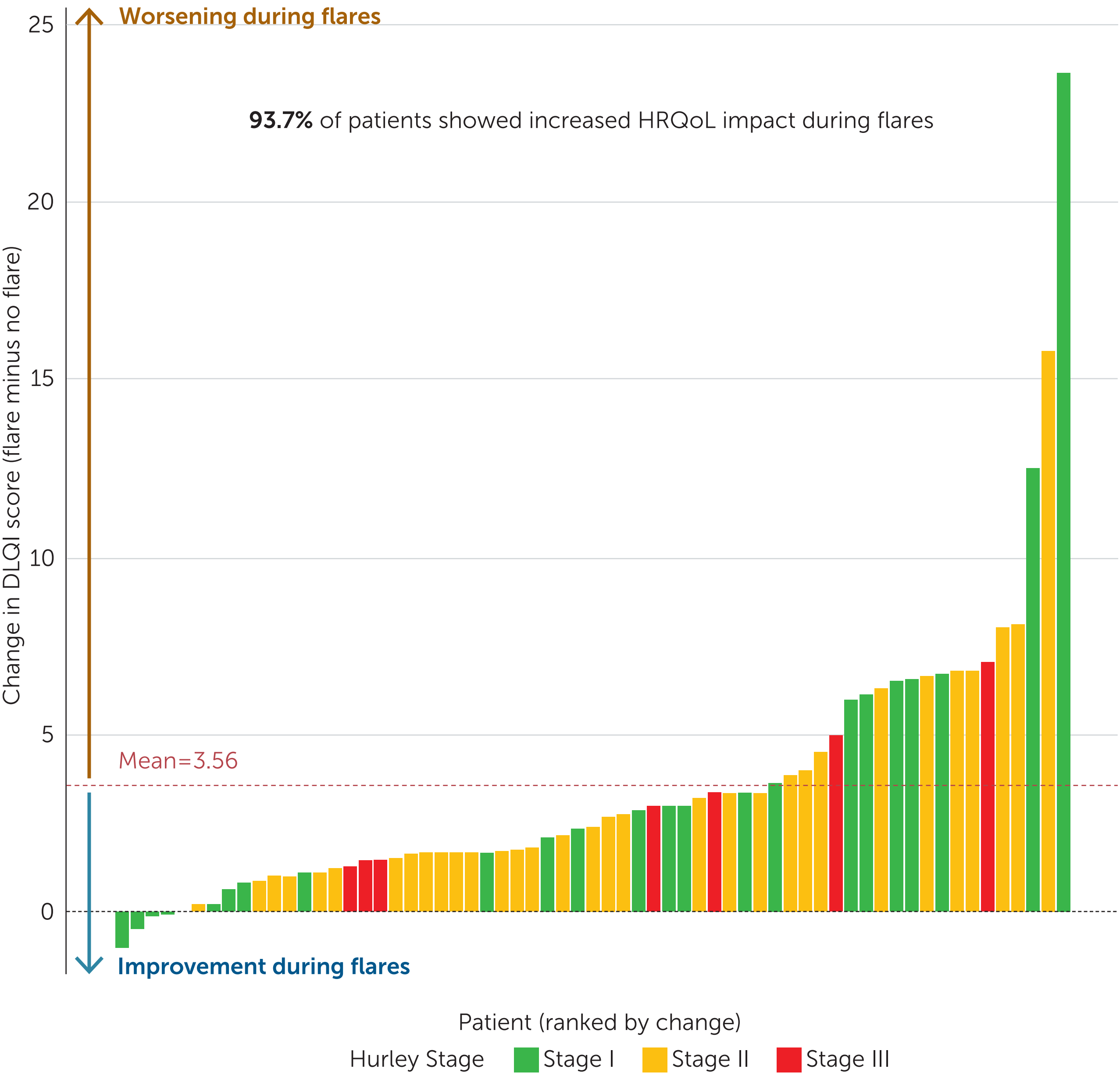
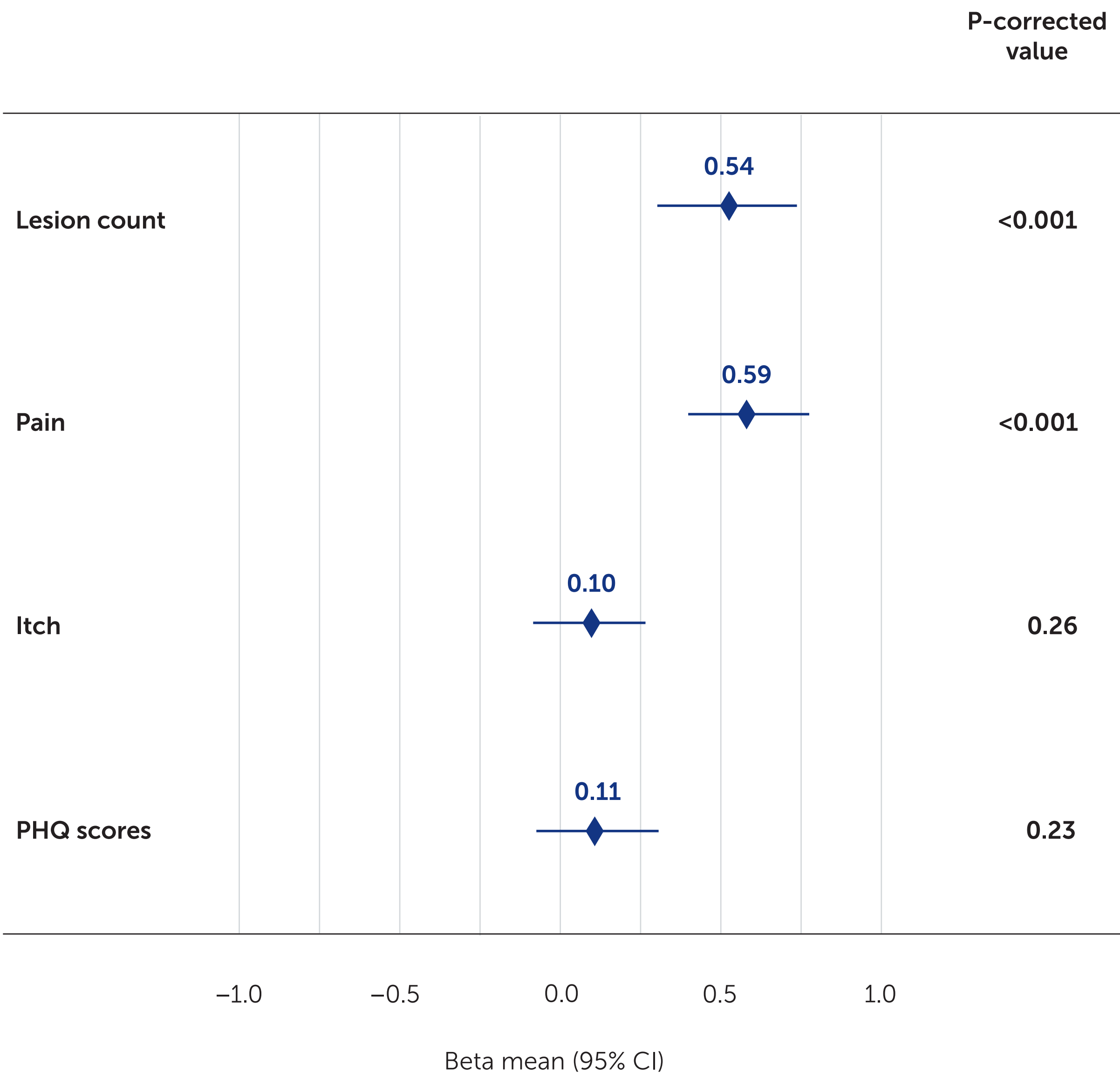


Figure 2 Change in quality-of-life scores during HS flares



Waterfall plot showing the difference between flare and non-flare scores (flare minus non-flare) for quality of life impact (DLQI) (n=67). Bars above zero indicate worsening during flares. Red dotted lines represent mean change across all patients. Patients showed increased DLQI scores while flaring, regardless of their Hurley Stage.

Figure 3 Predictors of flare



Beta values are reported for the posterior distributions learned by the hierarchical Bayesian mixed effects model. P-values were calculated over the null hypothesis on a normal, prior centered at zero.

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