# Measuring Psoriasis Disease Activity in the Real-World Setting: Relationship between the Physician Global Assessment and Body Surface Area Product and the Psoriasis Area and Severity Index

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## BACKGROUND

- Body surface area (BSA) measures the total percentage of a patient's body affected by psoriasis and characterizes the extent of disease.
- Physician global assessment (PGA) is a rapid and easily interpretable psoriasis severity assessment, which is measured on a 5-point scale (clear, almost clear, mild, moderate, severe).
- The Psoriasis Area and Severity Index (PASI) is a widely accepted disease activity (DA) measurement; however, it is not widely used in routine clinical practice due to the burden of administration.[1]
- The product of PGA and BSA (PGA x BSA) has promise as a marker of disease activity (DA) and may be pragmatic in clinical practice given the ease of collection compared to other clinical trial outcome measures.[2]
- Correlations between PGA x BSA and the PASI have been demonstrated in clinical trials; however, this relationship is not well explored in the real-world setting.

## OBJECTIVES

- The objective of this research was to evaluate the real-world relationship between PGA x BSA and the PASI for assessing DA in psoriasis patients within specialty dermatology networks in the United States (US).

## METHODS

- Patients from 6 specialty dermatology networks within the OMNY Health Database were selected if they meet the following criteria:
  - Diagnosis code for psoriasis
  - PASI, BSA, and PGA assessments recorded on the same day
- Demographic characteristics were tabulated at first score.
- The Spearman correlation coefficient between PGA x BSA and PASI was generated.
- Mean PASI score was computed by PGA x BSA quartile, and analysis of variance (ANOVA) was employed to assess the relationship.

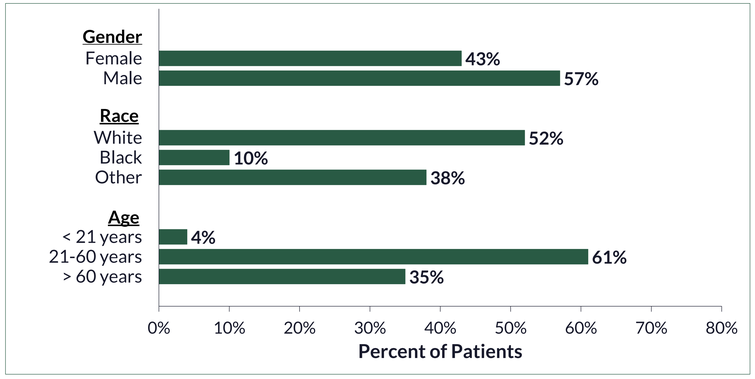
## REFERENCES

1. Langley RG et al., J Am Acad Dermatol 2004; 51: 563–569.
2. Gottlieb AB et al., Dermatology 2019 Jul; 235(4): 348–353.

## RESULTS

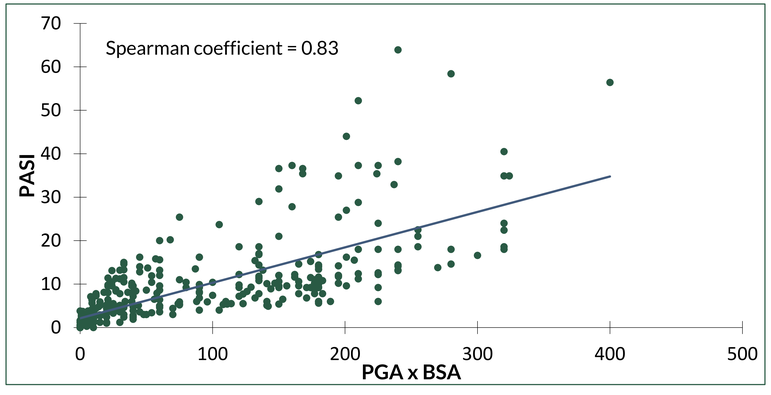
- From 254,306 psoriasis patients in the OMNY Health Database, a total of 359 assessments of PGA, BSA, and PASI on the same day from 187 unique patients were included.
- Demographic characteristics are summarized in Figure 1.

**Figure 1: Demographics of Study Population**




- The PASI versus PGA x BSA scatterplot is presented in Figure 2:
  - PASI variability increases with larger values of PGA x BSA, suggesting heteroscedasticity.
  - The observed Spearman correlation coefficient was 0.83.

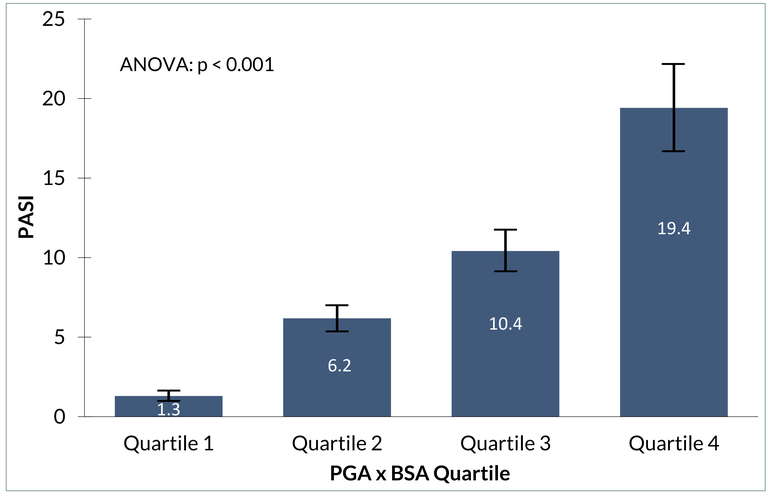
**Figure 2: Scatterplot of PASI versus PGA x BSA**




BSA = body surface area; PASI = Psoriasis Area and Severity Index; PGA = Physician Global Assessment

- Mean PASI values by PGA x BSA quartile are presented in Figure 3:
  - A monotonically positive relationship between mean PASI value and PGA x BSA quartile was observed.
  - Analysis of variance yielded a P value of less than 0.001.

**Figure 3: Mean PASI by PGA x BSA Quartile**




ANOVA = analysis of variance; BSA = body surface area; PASI = Psoriasis Area and Severity Index; PGA = Physician Global Assessment
Note: Error bars represent 95% confidence intervals. BSA x PGA quartiles were as follows: Quartile 1: 0 to 9, Quartile 2: 10 to 57, Quartile 3: 58 to 156, Quartile 4: 160 to 400

## DISCUSSION AND CONCLUSIONS

- The strong correlation between PGA x BSA and PASI may offer an opportunity to measure psoriasis disease activity more efficiently in routine clinical practice.
- Additional analyses accounting for patient characteristics and other clinical factors would be beneficial to understand independent contributions of those factors to PASI score.

## CONTACT INFORMATION

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