

# Comorbidity Burden and Characterization of Psoriasis (PsO) Patients with Concurrent Psoriatic Arthritis (PsA) in the Corrona Psoriasis Registry

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## Background

- Psoriasis (PsO) is an immune mediated chronic inflammatory disease with severe disease burden associated with several comorbidities and impact on quality of life. Psoriatic arthritis (PsA) is a spondyloarthritic condition, which is present in up to 42% of individuals with psoriasis (1).
- Studies have shown that patients with psoriasis, PsA or both generally have poorer quality of life outcomes, work productivity and functionality similar to other serious diseases such as heart disease and diabetes (2, 3).

# Objectives and Data Source

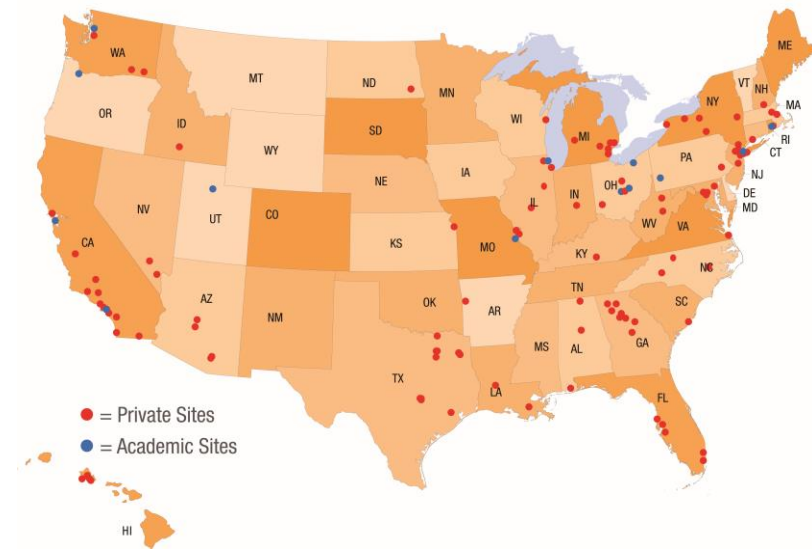
## Objective of the study

The objective of this study is to characterize the PsO patients with psoriatic arthritis (PsA) and examine association of outcomes with PsA in the Corrona Psoriasis Registry, a large prospective registry that was launched in collaboration with the National Psoriasis Foundation (NPF) to study the comparative effectiveness, safety of approved systemic PsO therapies and treatment patterns in a real world setting.

## Data Source: Corrona Psoriasis Registry

- As of October 31 2016, the NPF and Corrona have recruited 90 private and academic practice sites across 33 states in the United States, with 189 participating dermatologists.
- There were n=2095 patients with psoriasis participating in the registry at the time of study.
- Data is collected from both the participating dermatologists and patients approximately **every 6 months** during routine outpatient visits.

Corrona Sites from Inception of the Psoriasis Registry



# Methods

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## Study Population

All patients aged  $\geq 18$  years with a dermatologist-diagnosed psoriasis enrolled in the Corrona Psoriasis Registry as of May 31<sup>st</sup> 2016 were included. Additional eligibility criteria included initiation of a systemic biologic or non-biologic psoriasis treatment:

- On the enrollment date OR Within the 12 months preceding the enrollment date AND
- With a concurrent diagnosis of psoriatic arthritis.

## Relevant Definitions

- PsA diagnosis: Physician reported diagnosis at registry enrollment.
- Incident users : Patients starting the biologic/non-biologic therapy at enrollment.
- Prevalent users: Patients starting the biologic/non-biologic therapy in the previous 12 months to the enrollment.

## Statistical Analysis

- **Descriptive analysis:** Patient characteristics are presented for patients with/without PsA at registry enrollment. Categorical and continuous variables are presented with frequency, percentages, summarized using mean and standard deviation as appropriate. Analysis of Variance and Chi-square test of association were used to compare the characteristics at enrollment.
- **Modeling:** Multi-variable logistic regression analyses were conducted to compare psoriasis patients with/without PsA diagnosis at enrollment. Models were adjusted for “a priori variables” - age, sex, psoriasis disease duration, and body mass index (BMI); while other patient characteristics and comorbidities were also examined to test the significance of association.

# Demographics

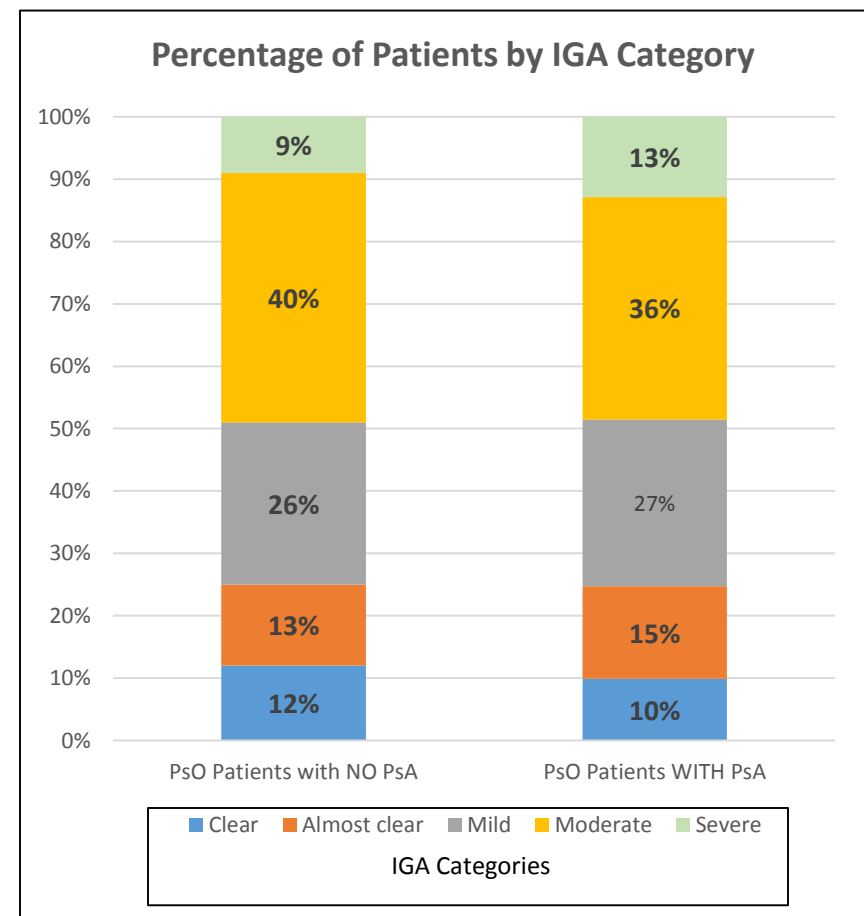
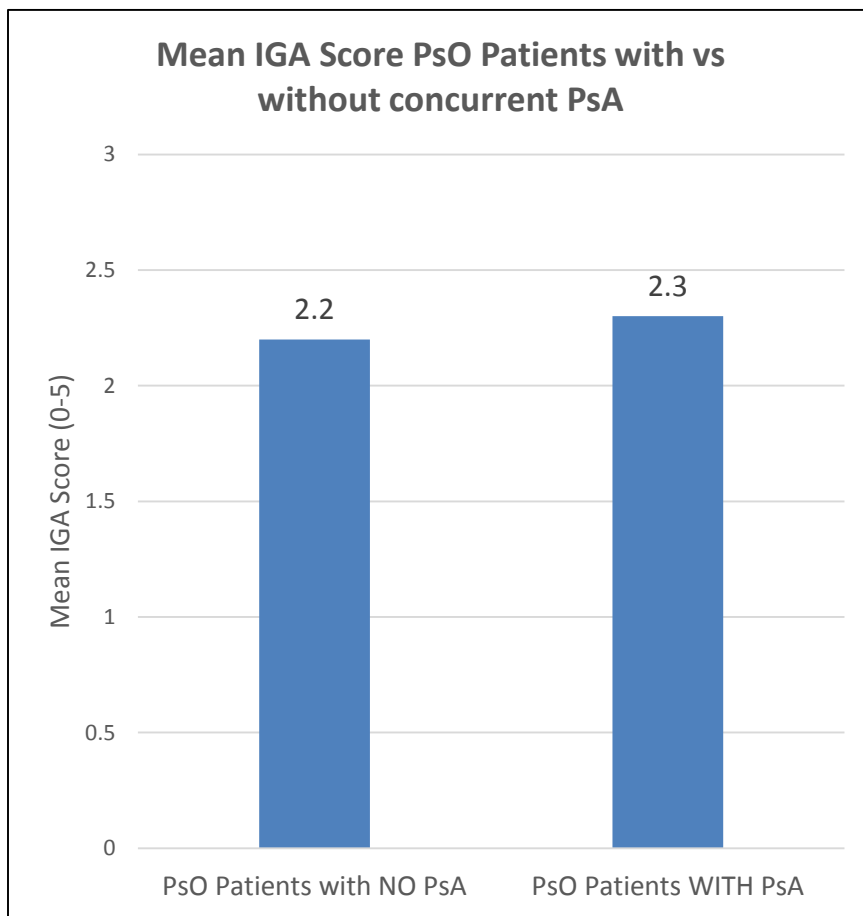
- Psoriasis patients with PsA were older, had higher body weight with about 80% being overweight or obese, which was significantly higher than patients with no PsA.
- Patients with PsA also had higher psoriasis disease duration and higher proportion of patients reported comorbidities, were more likely to be biologic experienced (65% vs 47%) with about 32% (vs 21%) with  $\geq 3$  prior biologics use compared to those with no PsA.

Demographics	Overall N=1529(100%)	PsO Patients with no PsA N=910 (59.5%)	PsO Patients with PsA N=619 (40.5%)	p-Value
Age in years, mean (SD)	50.6 (14.4)	49.7 (15.1)	51.9 (13.3)	0.004
Sex*: Female, n (%)	718 (47%)	404 (44%)	314 (51%)	0.015
Body Mass Index (kg/m <sup>2</sup> ), mean (SD)	30.6 (7.3)	29.9 (7.1)	31.7 (7.5)	<0.0001
Normal/ Underweight, n (%)	355 (23%)	241 (27%)	114 (19%)	
Overweight, n (%)	473 (31%)	297 (33%)	176 (29%)	
Obese ( $\geq 30$ ), n (%)	689 (45%)	366 (40%)	323 (53%)	
<b>History of Comorbidities, n (%)</b>				
Diabetes Mellitus	216 (14%)	102 (11%)	114 (18%)	<0.0001
Hypertension	596 (39%)	312 (34%)	284 (46%)	<0.0001
Hyperlipidemia	433 (28%)	231 (25%)	202 (33%)	0.002
Cardiovascular Disease	148 (10%)	78 (9%)	70 (11%)	0.077
Depression	292 (19%)	143 (16%)	149 (24%)	<0.0001
Anxiety	276 (18%)	134 (15%)	142 (23%)	<0.0001
Psoriasis disease duration (yrs) , mean (SD)	15.7 (13.6)	15.0 (13.5)	16.8 (13.6)	0.011
PsA disease duration (yrs) , mean (SD)	7.9 (8.4)	n/a	7.9 (8.4)	n/a
Biologic experienced, n (%)	828 (54%)	427 (47%)	401 (65%)	<0.0001
History of $\geq 3$ biologics	218 (26%)	89 (21%)	129 (32%)	0.0001*

\*p-value represents statistical significance test statistic those with PsA vs. those without for each variable.

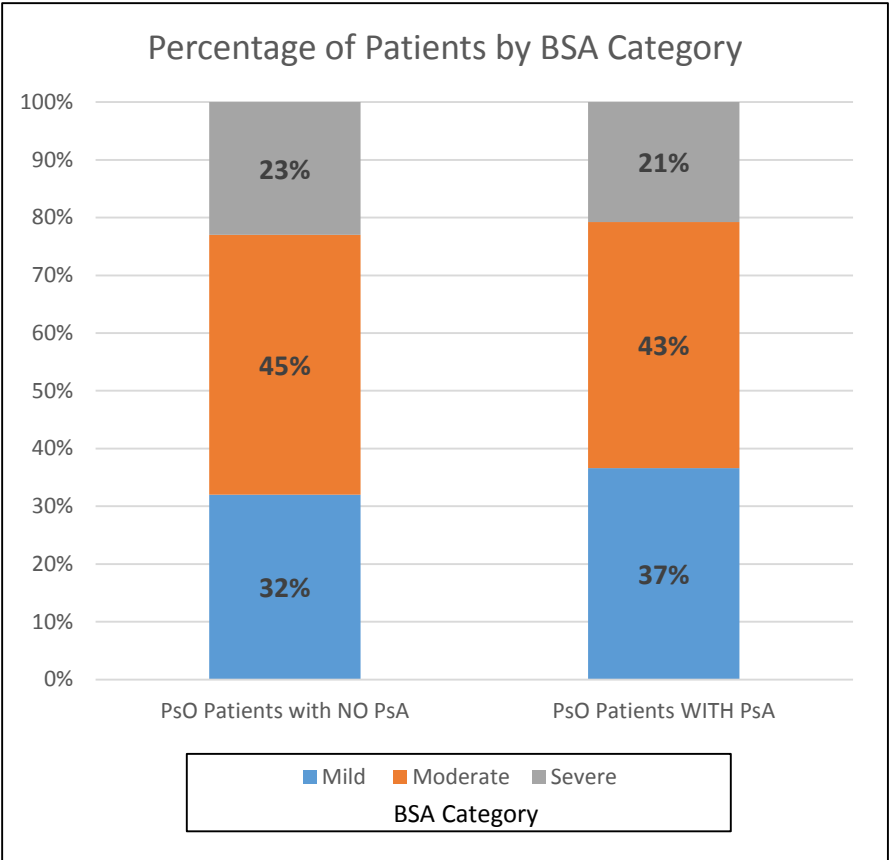
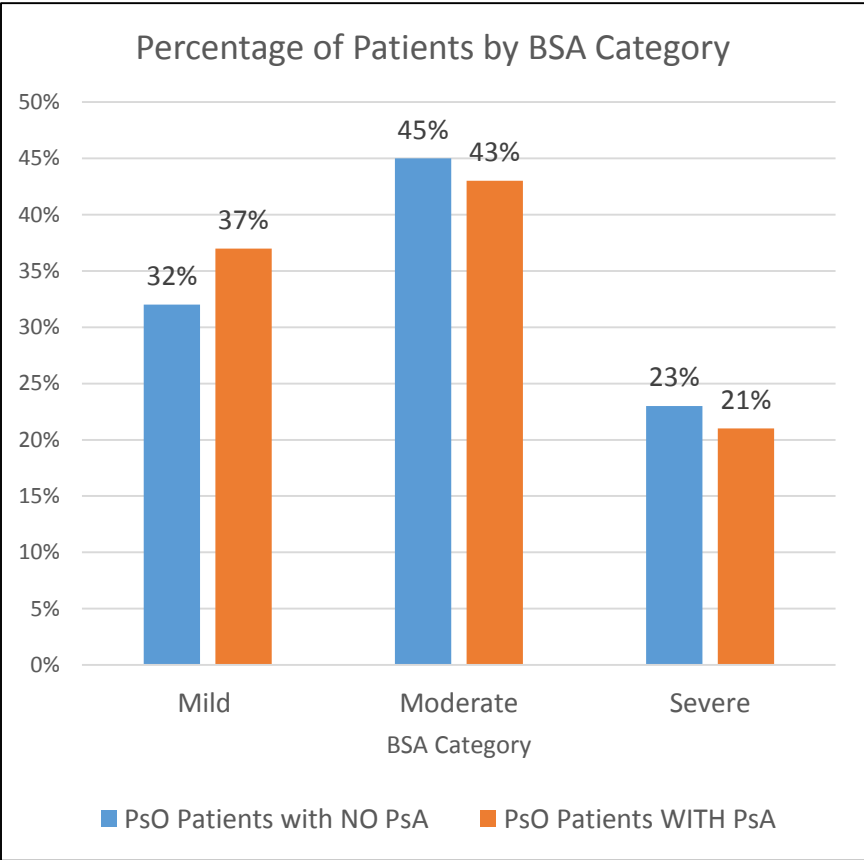
# Clinical Characteristics (IGA)

- Overall patients had a mean Investigator Global Assessment (IGA) score of 2.2, with similar mean scores in both groups – patients with/without PsA.
- Almost 50% of the patients in both groups were in moderate/severe disease defined by the IGA score of 3 or 4.



# Clinical Characteristics (BSA and PASI)

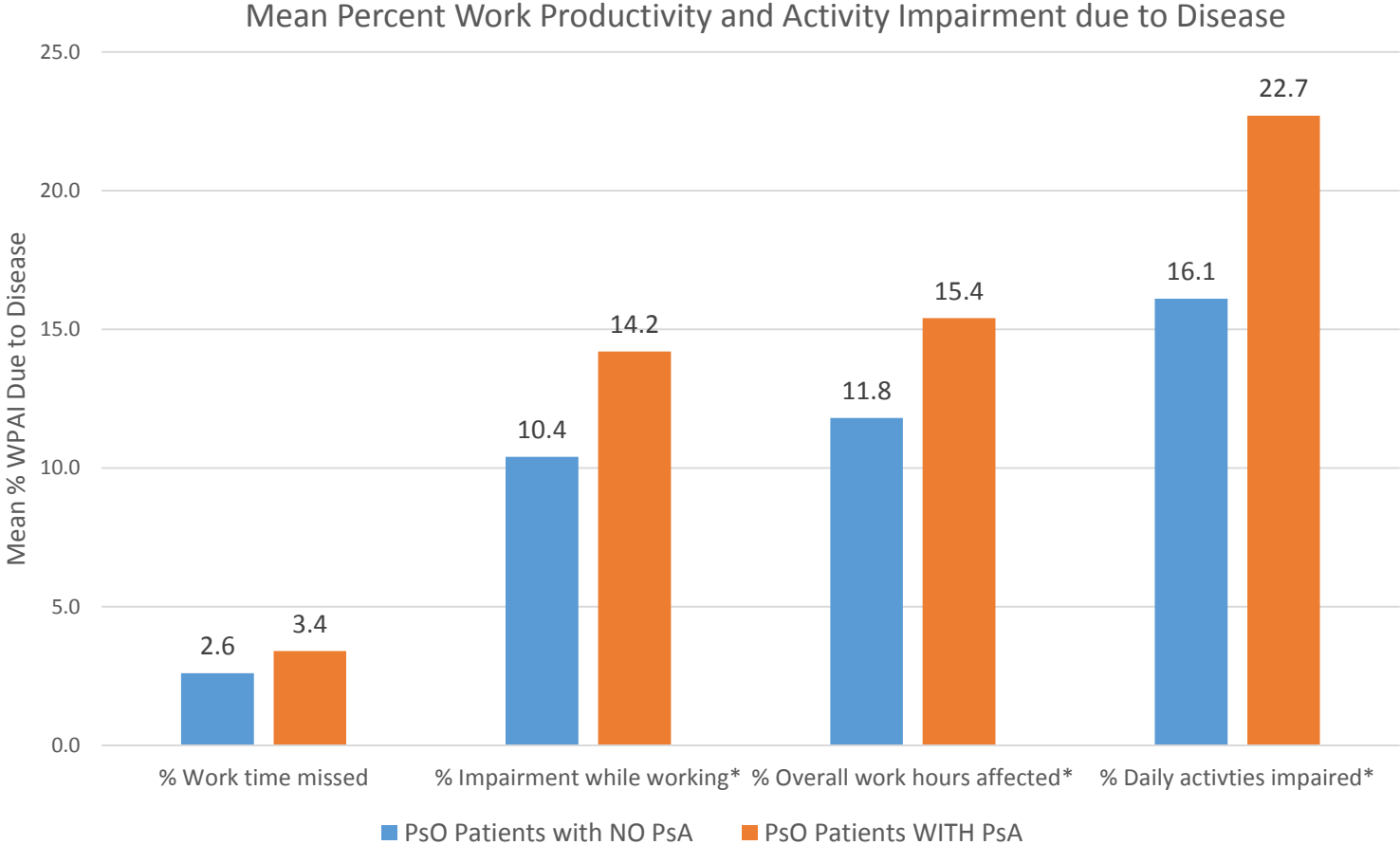
- The mean Body surface area (BSA) was higher in patients with PsA, although not significant (9.3 vs 9.0 for patients without PsA), this was also true for both incident and prevalent users at enrollment.



- Overall, the mean (SD) Psoriasis Area Severity Index (PASI) was 5.7 (6.9), with about 17% of the patients PASI >10.
- Results were similar for patients with / without PsA (Mean (SD): 5.5 (7.4) and 5.8 (6.5) respectively, p=0.4).

# Patient Reported Outcomes – Work Productivity and Activity Impairment

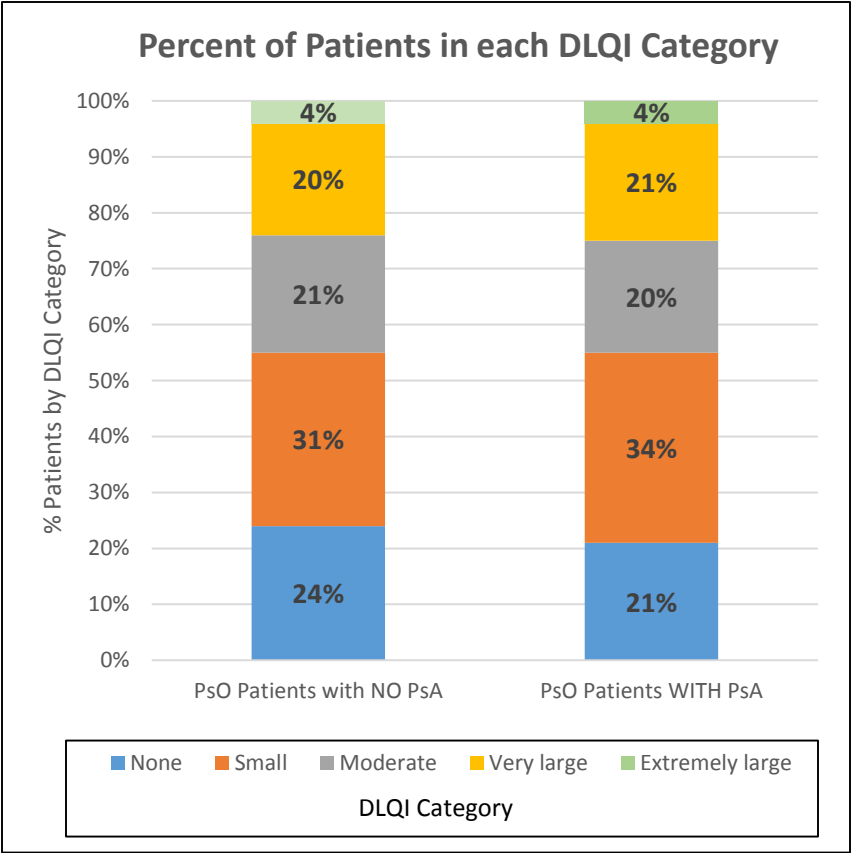
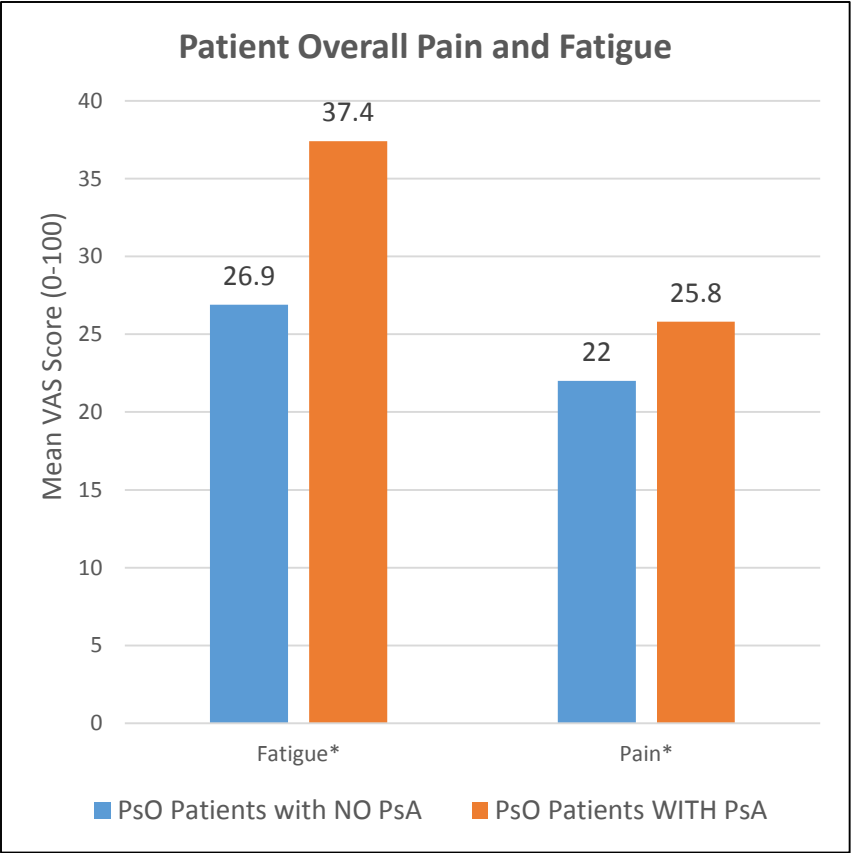
- Overall, 65% of the population was employed, significantly lower proportion of patients with PsA were employed compared to the patients without PsA (60% vs 69% respectively,  $p=0.0003$ ).
- Patients with PsA had higher percentage of work impairment across all domains of Work Productivity and Activity Impairment as shown in the figure below.



\*p-value <0.05

# Patient Reported Outcomes - Fatigue and Pain & Dermatology Life Quality Index

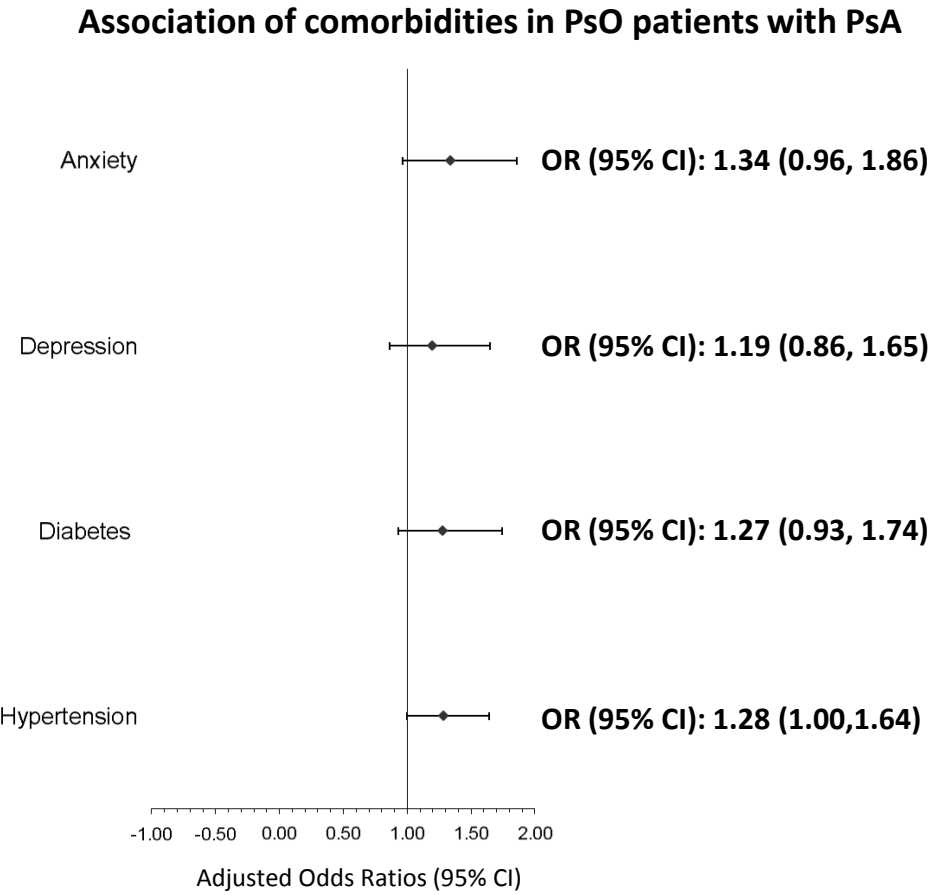
- Patients with PsA had higher fatigue (37.4 vs 26.9) and pain (25.8 vs 22.0) compared to the patients with no PsA.
- Overall patient health status measured by EQ-VAS 0-100 was lower for patients with PsA than those without PsA.
- Patients reporting moderate to very large effect of life on DLQI were similar in both groups.





# Association of Comorbidities

Psoriasis patients with PsA were more likely to have hypertension, diabetes, depression and anxiety compared to the patients with no PsA after adjusting for age, gender, body mass index, psoriasis disease duration and overall health status.



OR: Odds Ratio; CI: Confidence Intervals that do not include 1 indicate statistically significant OR.

# Summary

- Psoriasis patients with PsA were more likely to be older, have higher BMI and more likely to be biologic experienced with one-third of patients with history of  $\geq 3$  biologics use compared to patients with no PsA.
- Disease severity measured by BSA, IGA and PASI were similar between the two groups. However, patients with PsA reported poorer work productivity, worse pain and fatigue and were more likely to have comorbidity burden compared to those who did not have concurrent PsA at registry enrollment.

## References

- 1) Gladman DD et al. Ann Rheum Dis. 2005 Mar; 64 (Suppl 2):ii14-7.
- 2) Rapp SR et al. J Am Acad Dermatol. 1999 Sep; 41(3 Pt 1):401-7.
- 3) Armstrong AW et al. JAMA Dermatol. 2013 Jan; 149(1):84-91.

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## Author Disclosures

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