Burden of chronic inducible urticaria relative to psoriasis and atopic dermatitis in five European countries (France, Germany, Italy, Spain, and United Kingdom)

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Introduction and Objective

- Dermatological diseases are the fourth leading cause of non-fatal burden worldwide[1] and have a negative impact on patients, healthcare resource use (HRU), work activities[2-3]
- Published evidence on comparative burden on different dermatological diseases are lacking
- To evaluate the comparative disease burden of chronic inducible urticaria (CIndU), psoriasis (PSO) and atopic dermatitis (AD) in the EU5

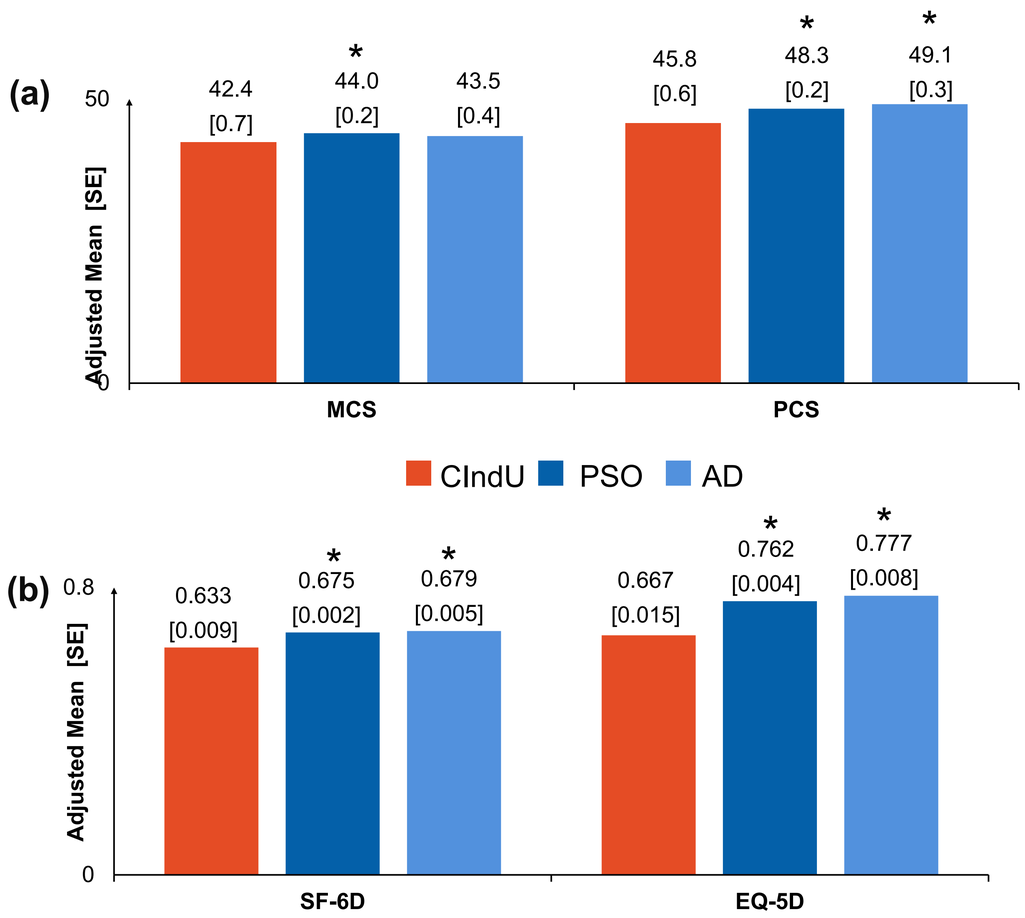
Methods

- Real world data from adult respondents with a physician diagnosis of CIndU, PSO and AD respectively, were collected from the 2020 National Health and Wellness Survey, representative of EU5 population
- Humanistic burden was assessed using Short-Form (SF)-12v2 (Mental [MCS] and Physical Component [PCS] Summary scores), health utility scores (SF-6D, EQ-5D), and EQ-5D visual analogue scale (VAS)
- Economic burden was assessed based on HRU in terms % of respondents reporting visits and mean number of visits to any healthcare provider (HCP), emergency room (ER) and hospitalizations in the past 6 months and the Work Productivity and Activity Impairment (WPAI) questionnaire
- WPAI scores are calculated as percent impairment (absenteeism, presenteeism, overall work impairment for employed respondents, and activity impairment for all); higher scores indicate higher impairment
- Generalized linear models were used to compare outcomes after adjusting for differences in patient characteristics, comorbidities, and prescription usage
- Adjusted results are presented as mean/percentage (standard error [SE]), for each comparison (CIndU vs PSO and CIndU vs AD)

Results

- Among total of 62,319 respondents:
  - 199 had CIndU, mean [SD] age 42.4 (16.3) years, 65.8% female
  - 2,636 had PSO, 50.9 (15.6) years, 54.2% female
  - 788 had AD, 44.6 (15.8) years, 67.4% female

Figure 1. Adjusted mean (a) MCS and PCS scores (b) Utility scores for CIndU vs PSO and AD respectively



*P<0.05; based on paired comparison of CIndU vs PSO and CIndU vs AD
MCS: mental component summary; PCS: physical component summary; SE: standard error; SF-6D: Short form-6 dimension; Lower scores worse status

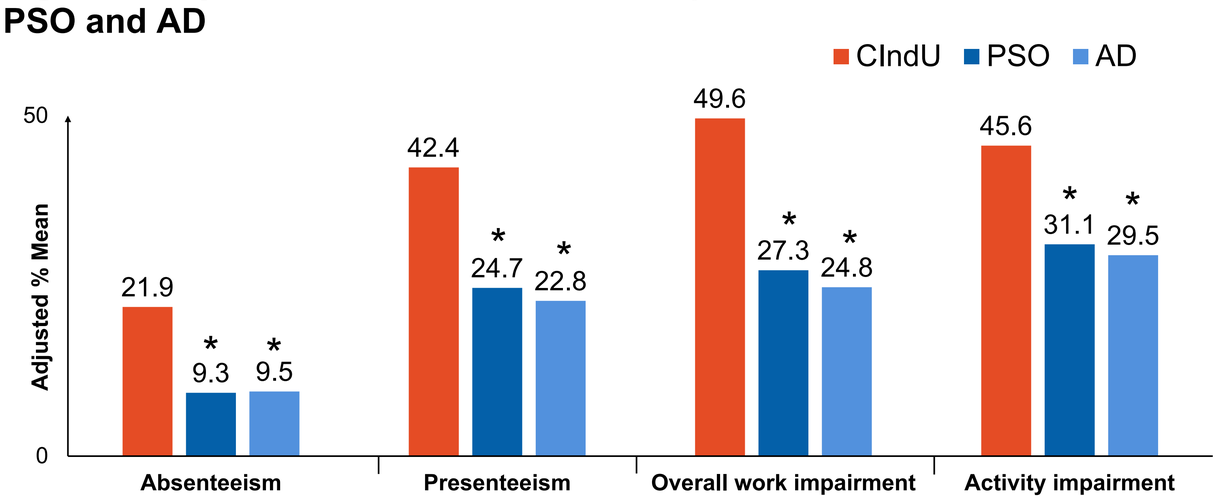
- CIndU had significantly lower (worse) PCS score as compared to PSO and AD while the MCS score for CIndU was significantly lower than PSO and comparable to AD patients (**Figure 1a**)
- CIndU also had significantly lower mean SF-6D and EQ-5D utility scores compared to PSO and AD (**Figure 1b**)
- Adjusted EQ-5D VAS score was significantly lower (worse) for CIndU vs PSO and vs AD (63.8 [1.6] vs 68.5 [0.5] vs 67.9 [0.9]; p<0.05 for both)
- Percentage of HCP visits was significantly higher for CIndU than PSO and comparable to AD; no significant difference in mean number of any HCP visits were observed (**Table1**)
- There was a significantly higher use and higher mean number of ER visits and hospitalizations for CIndU compared to PSO and AD (**Table1**)
- Adjusted employment status was similar across all patients
- Patients with CIndU had significantly higher absenteeism, presenteeism, overall work and activity impairment compared to PSO and AD (**Figure 2**)

Table1. Adjusted healthcare visits in CIndU vs PSO and vs AD patients

	CIndU (N=199)	PSO (N=2,636)	P value[a]	AD (N=788)	P value[b]
Any Healthcare provider					
Visited, % [SE]	96.2 [1.1]	93.0 [0.6]	0.030	94.4 [0.9]	0.200
Number of visits, mean [SE]	6.5 [0.5]	5.9 [0.1]	0.307	6.3 [0.3]	0.794
Emergency room (ER)					
Visited, % [SE]	28.7 [3.4]	16.7 [0.8]	<0.001	13.7 [1.3]	<0.001
Number of visits, mean [SE]	0.8 [0.1]	0.3 [0.02]	<0.001	0.2 [0.02]	<0.001
Hospitalization					
Visited, % [SE]	28.5 [3.4]	9.4 [0.6]	<0.001	6.8 [0.9]	<0.001
Number of visits, mean [SE]	0.5 [0.11]	0.1 [0.01]	<0.001	0.1 [0.01]	<0.001

[a]comparison between CIndU vs PSO, [b]comparison between CIndU vs AD
AD: atopic dermatitis; CIndU: Chronic inducible urticaria; PSO: psoriasis; SE: standard error

Figure 2. Adjusted mean WPAI scores for patients with CIndU relative to PSO and AD



*P<0.001; Higher % score means higher impairment
Absenteeism, presenteeism and overall work impairment are reported for employed respondents; WPAI: Work Productivity and Activity Impairment

Conclusion

- This is the first study using real world data from a representative survey to report the humanistic and economic burden of CIndU in EU5 and compare to other skin conditions
- After adjusting for confounders, patients with CIndU have significantly worse health status, higher HRU and work and activity impairment compared to PSO and AD

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