Poster# P2364

# BURDEN OF ILLNESS IN CHRONIC INDUCIBLE URTICARIA (CIndU): A TARGETED LITERATURE REVIEW (TLR)

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## KEY FINDINGS & CONCLUSIONS

- CIndU remains poorly understood due to limited epidemiological data and CSU overlap
- Despite limited data, CIndU is linked to high comorbidity rates, such as allergies, anxiety, depression, asthma, and sleep issues that significantly impair quality of life
- Better physician education, treatment access, disease understanding, and trigger management are the key unmet needs.
- Addressing these gaps is key to developing targeted therapies

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## INTRODUCTION

- Chronic Inducible Urticaria (CIndU) is marked by recurrent itchy wheals and/or angioedema lasting >6 weeks, triggered by specific stimuli, and remains underdiagnosed and undertreated[1]

## OBJECTIVE

- To identify and summarize published evidence on CIndU burden and unmet needs to support gap analysis and evidence planning

## METHODS

- A comprehensive targeted literature review was performed with predefined PICOS criteria in December 2024 (**Figure 1**)
- Search strategies were applied across various databases, including Embase®, Medline®, CDSR, CENTRAL, DARE, and HTA, along with manual searches on congress websites and bibliographic sources
- All records were screened at both the title/abstract and full-text stages by one reviewer, with quality checks by a second independent reviewer
- Study selection, data extraction, and reporting followed best practices, with only English-language studies included

**Figure 1. PICOS Criteria**

| | |
|---|---|
| P | Adult patients aged ≥18 years with CIndU |
| I/C | Studies were not limited based on interventions and comparators |
| O | Clinical and humanistic burden and unmet needs |
| S | Observational studies#, systematic reviews and meta-analysis |

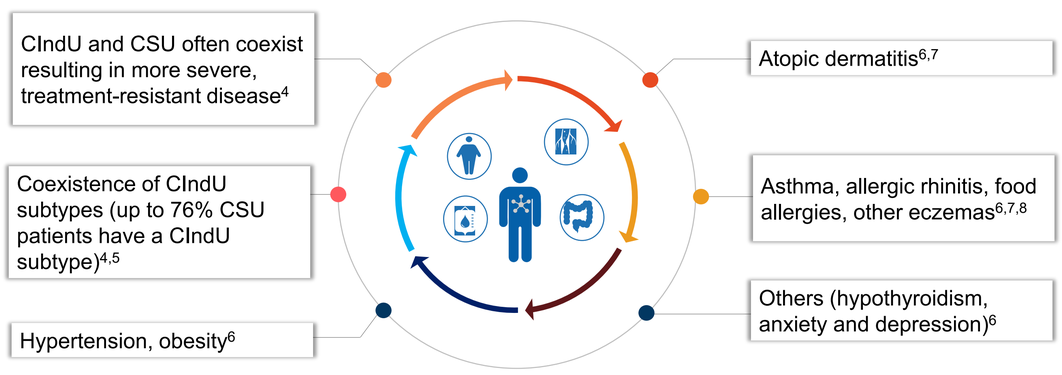
#Prospective, retrospective, cohort, cross-sectional, case-control, claims database, registry studies.
C: Comparators; CINDU: Chronic Inducible Urticaria; I: Intervention; O: Outcomes; P: Patient population; S: Study design

## RESULTS

### Clinical Burden

- Characterized by hives and/or angioedema (2.6%-29.4%)[2] with itching as the most bothersome symptom (69%), followed by burning (15%) and pain (5%)[3]
- The clinical burden of CIndU is significant and multifaceted (**Figure 2**)
- **Symptomatic Dermographism:**
  - Higher rates of asthma (22.2%), allergic rhinitis (46.8%), and thyroid disease (22%) compared to CSU patients[9]
- **Cholinergic Urticaria:**
  - Patents with angioedema report higher rates of allergies (53% vs. 35%), atopic dermatitis (16% vs. 5%) compared to those without[10]
- **Cold Urticaria:**
  - 33.8%-51.9% report atopy, with a pooled estimated anaphylaxis prevalence in ColdU at 21.5%[11-13]

**Figure 2: Comorbidities in patients with CIndU**




CIndU: chronic inducible urticaria; CSU: chronic spontaneous urticaria

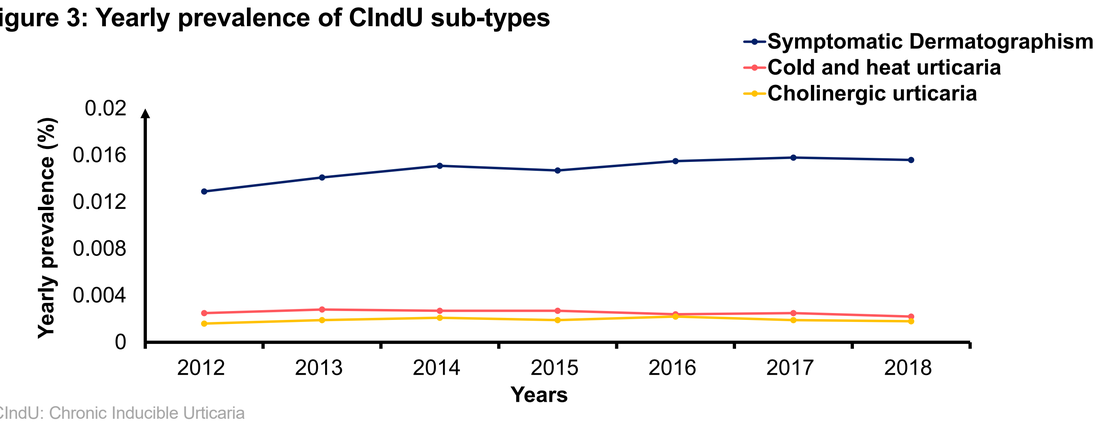
- CIndU diagnosis relies on detailed history and provocation testing, but delays are common—averaging 24.5 to 54.34 months, with patients consulting 7.7 physicians before and 6.7 after diagnosis on average, with 35% requiring monthly visits[11,14-17]
- Recent real-world studies have reported prevalence, and incidence estimates of CIndU (**Table 1**), and its subtypes, symptomatic dermographism (0.0129%-0.0158%), cold and heat urticaria (0.0025%-0.0028%), and cholinergic urticaria (0.0016%-0.0022%) (**Figure 3**)

**Table 1. Prevalence and Incidence estimates from real-world studies**

| Reference | Country | Study Design | Time Period | Prevalence definition | Prevalence (%) | Incidence definition | Incidence (%) |
|---|---|---|---|---|---|---|---|
| Balp 2021[18] | USA | Database (Optum CDM) | 2012-2018 | Diagnosed CIndU based on ≥ 2 ICD-9 and/or 10 codes | 0.0164 - 0.0227 | Diagnosed new CIndU cases based on ≥ 2 ICD-9 and/or 10 codes | 0.0073 -0.0103 |
| | | Database (Market Scan) | 2012-2017 | | 0.0118 - 0.0206 | | 0.0058 -0.0093 |
| Weller 2022[19] | Germany | Database (SHI claims) | 2017 | 12-month prevalence of physician diagnosed CIndU | 0.10 | 12-month incidence of physician diagnosed CIndU | 0.03 |
| Balp 2022[20] | EU5 | NHWS Survey | 2020 | Weighted 12-month prevalence for physician diagnosed CIndU | 0.46 | - | - |
| Balp 2022[20] | USA | NHWS Survey | 2019 | Weighted 12-month prevalence for physician diagnosed CIndU | 0.36 | - | - |
| Hide 2022[21] | Japan | NHWS Survey | 2019 | Weighted 12-month prevalence for physician diagnosed CIndU | 0.39 | - | - |

CDM: Clinformatics Data Mart; CIndU: Chronic Inducible Urticaria; EU: European Union; NHWS: National Health Wellness Survey; SHI: Statutory Health Insurance; USA: United States of America

**Figure 3: Yearly prevalence of CIndU sub-types**




CIndU: Chronic Inducible Urticaria

### Disease progression

- Limited evidence available on disease course. CIndU typically lasts longer than CSU[24,25]
  - **Symptomatic Dermographism:** Duration ranges from 10 days to 10 years (avg. ~21 months); with CSU and angioedema often lasts >1 year[22,23]
  - **Cholinergic Urticaria:** Duration 4–7.5 years[26,27], with remission rates of 12.5% (1 year), 35.5% (5 years), and 67.9% (13 years)[24]
  - **Cold Urticaria:** Lasts 4.8–7.9 years[28] with 17.9% remission at 5 years and 24.5% at 10 years[29]

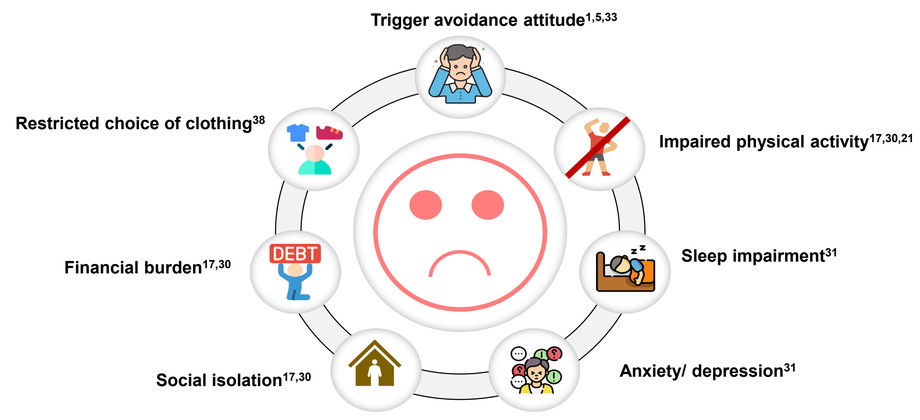
### Treatment-related burden

- Most CIndU patients fail to achieve adequate control with H1-antihistamines, with frequent switching and up-dosing in patients with isolated CIndU and CSU+CIndU[17,30]
- Only 15.3% of CIndU patients in EU5, 14.7% in the US, and 21.6% in Japan receive prescription treatment, underscoring a significant clinical burden and unmet therapeutic need[31]
- Clinical practice often diverges from guidelines with ~62% of patients receive oral corticosteroids and >50% are prescribed sedating H1-antihistamines in the first year[32]

### Humanistic Burden

- Multiple aspects of QoL are negatively affected in these patients (**Figure 4**)

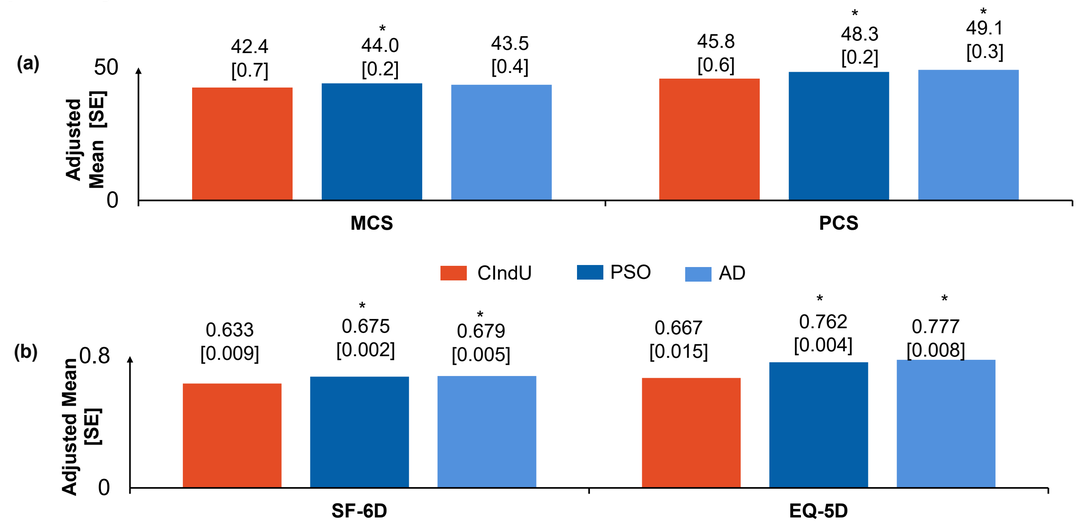
**Figure 4: Impact on QoL in CIndU patients**




CIndU: Chronic Inducible Urticaria; QoL: Quality of Life

- Limited data on CIndU subtype burden and QoL impact available
  - **Symptomatic Dermographism:** 43% report QoL impact, with 7% unable to live a normal life and 33% linking symptoms to psychosocial stress[34]
  - **Cholinergic Urticaria:** Around 90.1% patients report poor disease control (UCT ≤11)[14]
  - **Cold Urticaria:** Impaired QoL affecting daily activities and clothing choices[35]
- Mental and physical health scores were below 50 across all groups, with CIndU patients showing significantly lower values than those with psoriasis (PSO) or atopic dermatitis (AD) (**Figure 5**)[36]

**Figure 5: 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 indicate worse status

### Evidence Gaps and Unmet Needs

- Despite growing recognition, CIndU remains poorly understood and managed (**Table 2**)[4,17,30,33,37]

**Table 2. Summary of key gaps and unmet needs identified from the review**

| | | |
|---|---|---|
| | **Limited Data** | Sparse epidemiological data across CIndU subtypes |
| | **Caregiver Burden** | No studies found on caregiver impact |
| | **Treatment Gaps** | Lack of effective treatment options |
| | **Knowledge & Access** | Better physician education, treatment access, and understanding of causes |

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**Disclosures**

Samprati Avasthi and Ravneet Kaur Kohli are current employees of Novartis Healthcare Pvt. Ltd., Hyderabad, India. Panagiotis Orfanos is current employee of Novartis Pharma AG, Basel, Switzerland.