

# Sleep disturbance due to pruritus is associated with anxiety, depression, and worse quality of life: evidence for management of pruritus and sleep in chronic liver disease

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Poorer sleep quality due to pruritus is correlated with more severe depression and anxiety, and worse HRQoL. Optimal management of pruritus where sleep is disrupted is important for patients with liver diseases such as PBC

Digital poster  
Narrated summary

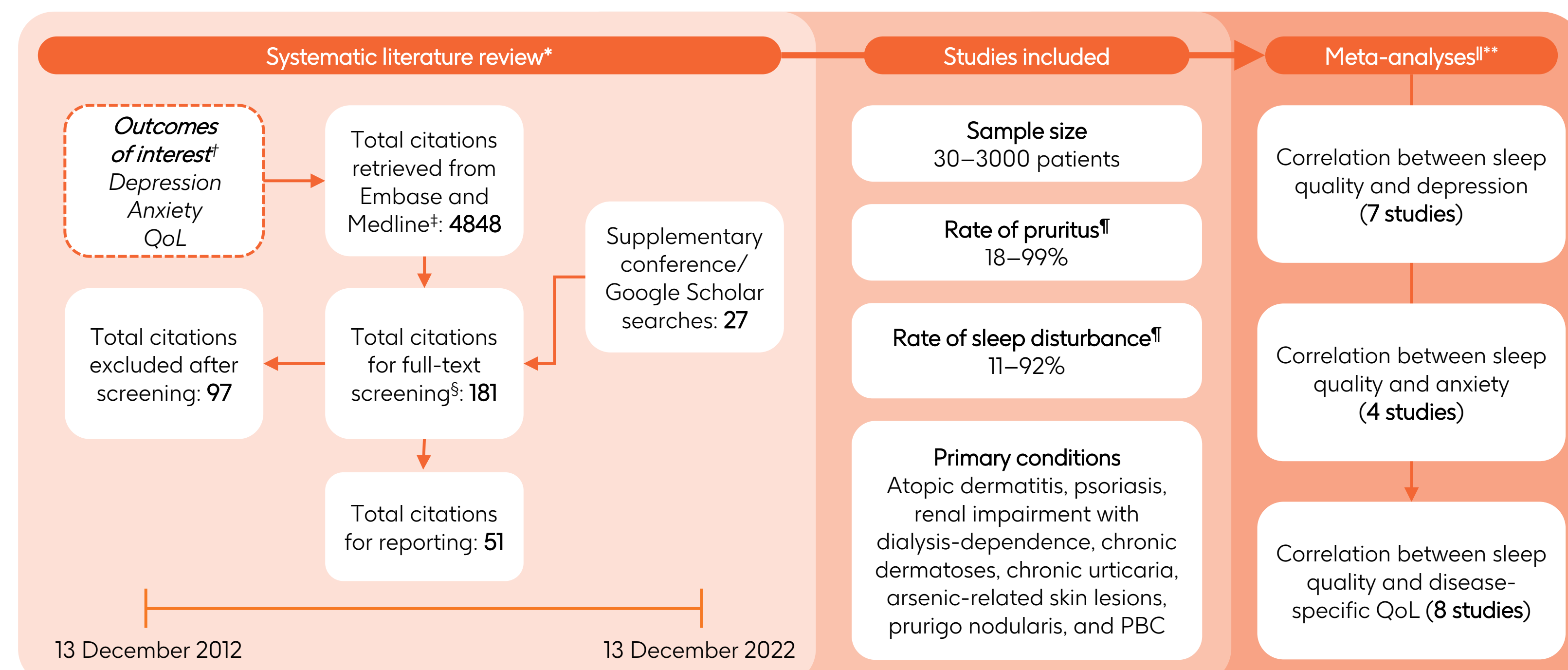


## Background

- Pruritus (itch) is common in chronic liver diseases and is even more common in cholestatic liver diseases such as PBC<sup>1</sup>
- Pruritus, especially severe pruritus, has been associated with depression,<sup>2</sup> including in PBC<sup>3</sup>
  - Severe pruritus in PBC also leads to poorer HRQoL, which is often worse in the proportion of patients who experience depression alongside severe pruritus<sup>3</sup>
- Severe sleep interference is common in patients with PBC and severe pruritus, and impacts HRQoL<sup>3,5,6</sup>
  - In the Phase 2b GLIMMER study (NCT02966834) in patients with PBC, pruritus was associated with sleep disturbance<sup>3,5,6</sup>
  - Change in pruritus severity was also strongly correlated (post hoc) with change in sleep interference, regardless of treatment group<sup>6</sup>
- However, the consequences of sleep disturbance due to pruritus have not been well described in the literature to date

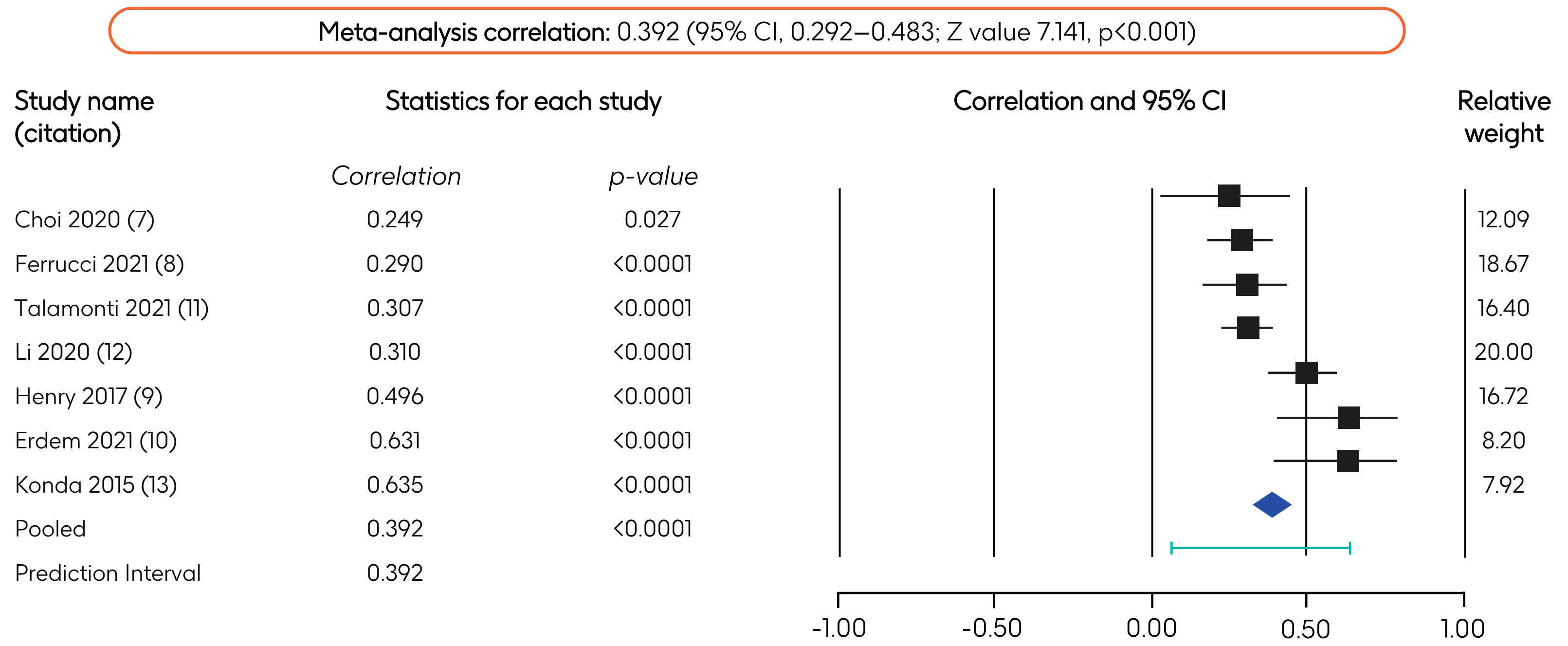
## Results

Figure 1: Systematic literature review and meta-analyses: methods and description of studies identified/included



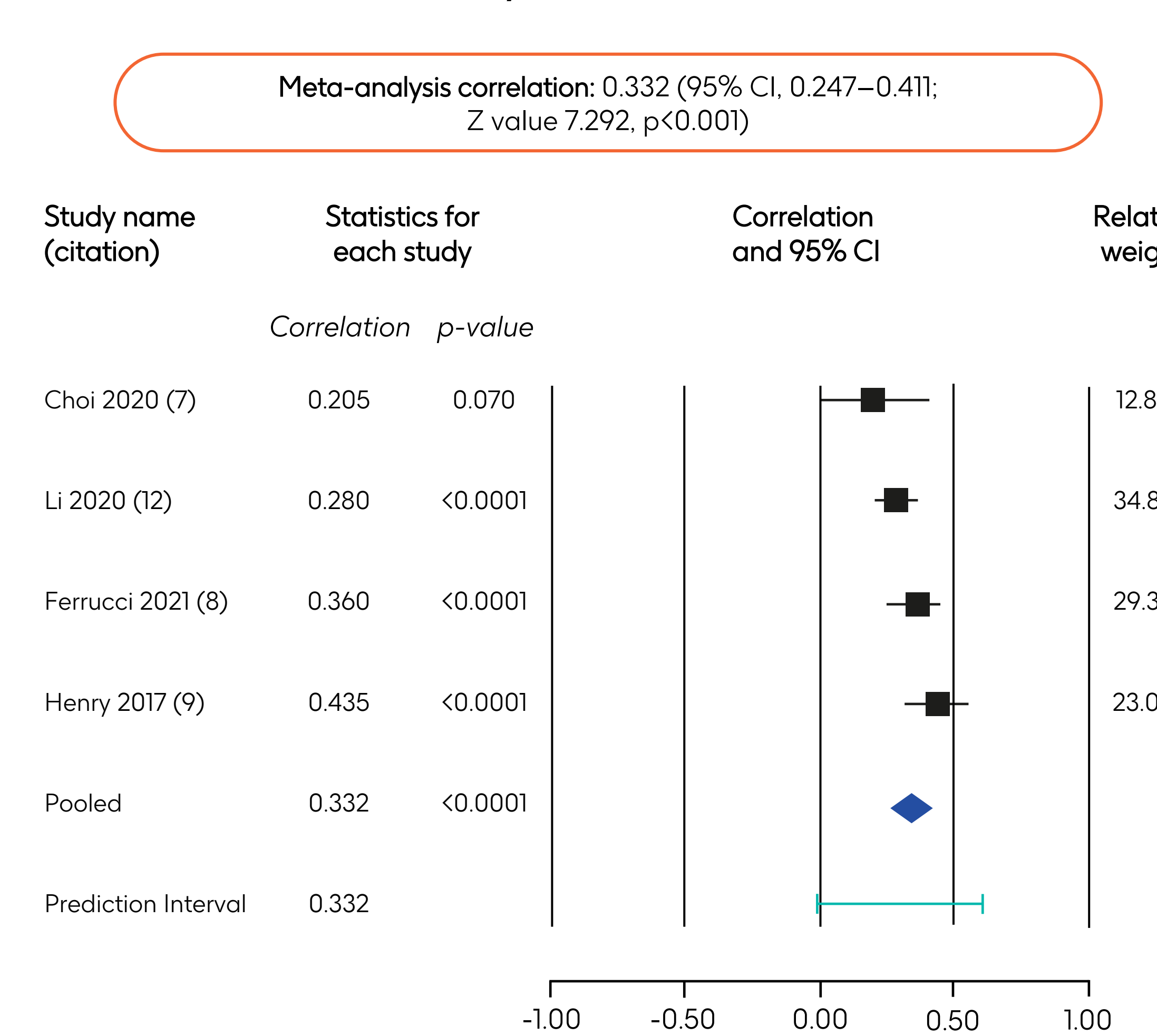
\*Additional outcomes assessed that had an insufficient number of studies identified for meta-analysis included metabolic conditions (n=4), neurocognitive conditions (n=1), all-cause mortality (n=1), hypertension (n=0) and suicidality (n=0). †measures used to assess sleep disturbance, depression, anxiety and QoL were heterogeneous between publications; †studies must have included adult patients of any ethnicity, with sleep disturbance due to pruritus secondary to any medical condition; studies in healthy volunteers were excluded, and clinical trials and case reports/series were excluded; †screening was conducted by two independent reviewers; †among included patients, bias was assessed using a funnel plot, Egger's linear regression test, and Duval and Tweedie's trim-and-fill method; †since observational studies typically have heterogeneous populations followed differently, clinical and methodological characteristics were expected to differ between studies, so a random-effects model (vs a fixed-effect model) was used to calculate a pooled effect size (correlation coefficient)

Figure 2: Lower sleep quality was moderately associated with more severe depression



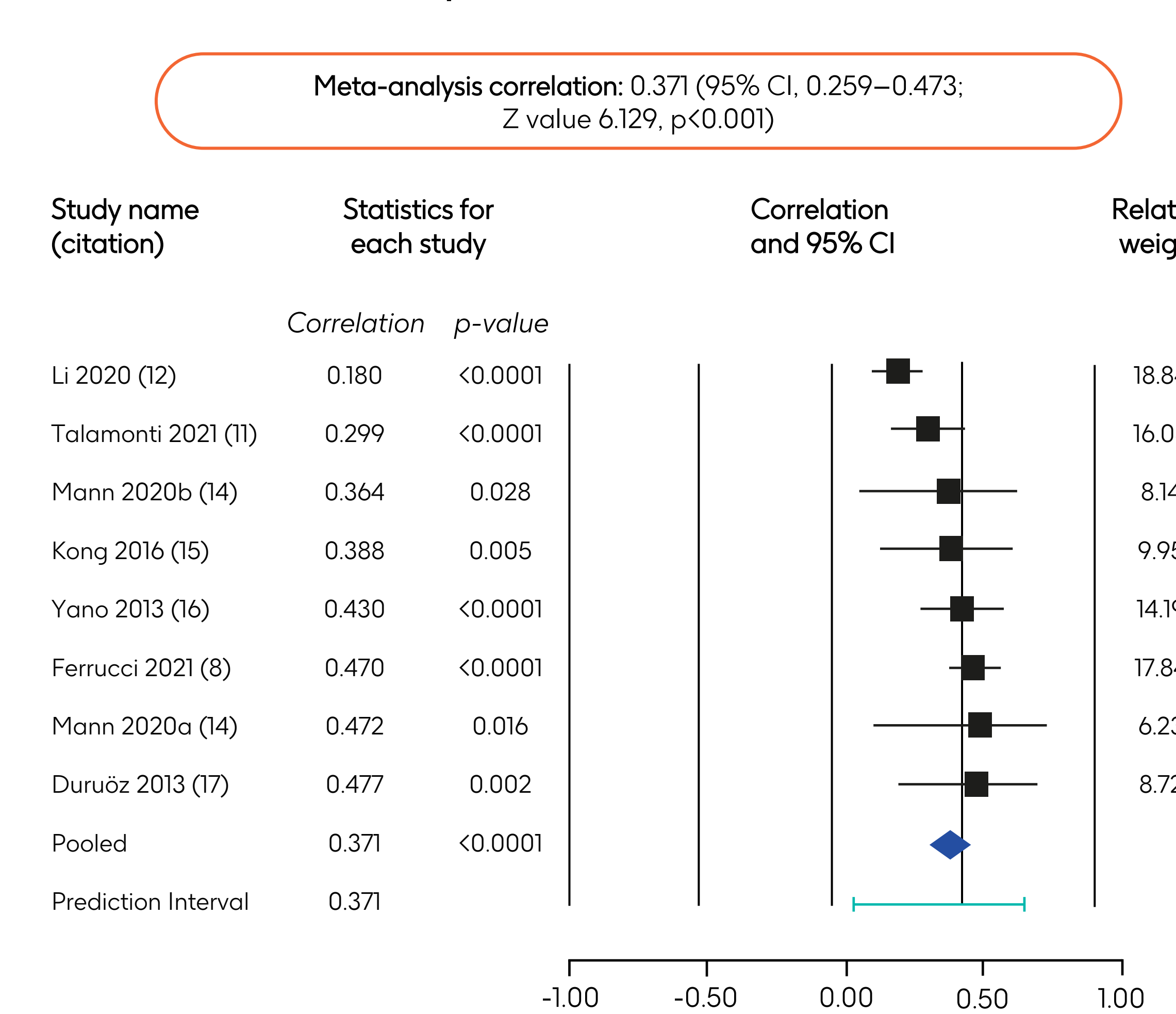
Scales used for assessing depression: HADS-D (7, 8, 9), BDI (10, 11), PHQ-2 (12), and HDRS-17 (13). For all scales, a higher score indicates higher severity of depression. Scales used for assessing sleep quality: VAS (7), SQ-NRS (8), and PSQI (9, 11, 12, 13). For all scales, a higher score indicates worse sleep quality/disturbance

Figure 3: Lower sleep quality was moderately associated with more severe anxiety



Scales used for assessing anxiety: HADS-A (7, 8, 9) and GAD-2 (12). For all scales, a higher score indicates higher severity of anxiety. Scales used for assessing sleep quality: VAS (7), SQ-NRS (8), and PSQI (9, 12). For all scales, a higher score indicates worse sleep quality/disturbance

Figure 4: Lower sleep quality was moderately associated with worse disease-specific QoL



Scales used for assessing QoL: DLQI (8, 11, 12, 14, 15, 16) and PSA-QoL (17). For all scales, a higher score indicates lower QoL. Scales used for assessing sleep quality: SQ-NRS (8), VAS (11), ISI (14), and PSQI (12, 15, 16, 17). For all scales, a higher score indicates worse sleep quality/disturbance

## Aims

Understand impact of pruritus-related sleep disturbance on mental health and HRQoL

Systematic literature review to identify publications reporting data on sleep disturbance due to pruritus secondary to any medical condition

Meta-analyses to assess correlation of sleep quality with depression, anxiety, or HRQoL

## Conclusions

Poorer sleep quality due to pruritus secondary to any medical condition is correlated with depression, anxiety and worse disease-specific QoL

Given this widespread impact of sleep disturbance on mental health and daily life, healthcare professionals should discuss pruritus-related sleep disturbance with their patients

Optimal management of pruritus, especially when sleep is disrupted, is important for patients with chronic liver diseases such as PBC

## Abbreviations

BDI, Beck Depression Inventory II; CI, confidence interval; DLQI, Dermatology Life Quality Index; GAD-2, Generalized Anxiety Disorder-2; HADS-A, Hospital Anxiety and Depression Scale – Anxiety subscale; HADS-D, Hospital Anxiety and Depression Scale – Depression subscale; HDRS-17, Hamilton Depression Rating Scale-17; HRQoL, health-related quality of life; ISI, Insomnia Severity Index; PBC, primary biliary cholangitis; PHQ-2, Patient Health Questionnaire-2; PSA-QoL, Psoriatic Arthritis Quality of Life; PSQI, Pittsburgh Sleep Quality Index; QoL, quality of life; SQ-NRS, Sleep Quality Numeric Rating Scale; VAS, Visual Analogue Scale

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