

More than just an itch: Impact of cholestatic pruritus in primary biliary cholangitis (PBC) on health-related quality of life (HRQoL)

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Background & Aims

- Pruritus associated with PBC affects sleep, and social and emotional wellbeing, yet there is limited understanding or appreciation of the impact that cholestatic pruritus can have on those who live with it, with people dismissing pruritus as “just an itch”.
- The EQ-5D is a standardised measure of health-related quality of life. It provides a simple, generic questionnaire for use in clinical and economic appraisal and population health surveys. It has 2 parts:
 - The **descriptive system** comprising 5 dimensions: mobility, self-care, usual activities, pain/discomfort and anxiety/depression
 - The **VAS** records the patient's self-rated health on a vertical visual analogue scale, where the endpoints are labelled 'The best health you can imagine' and 'The worst health you can imagine'
- The responses to the 5 questions in the descriptive system can be translated into a health utility score (a single value between 0 [death] and 1 [perfect health]).
- A recent UK study explored EQ-5D utilities in a broad PBC population.¹ Here, using data from the Phase 2b GLIMMER study (post hoc) investigating linerixibat for the treatment of cholestatic pruritus in PBC (NCT02966834), the impact of itch severity on health utility in PBC is explored and quantified for the first time.

Methods

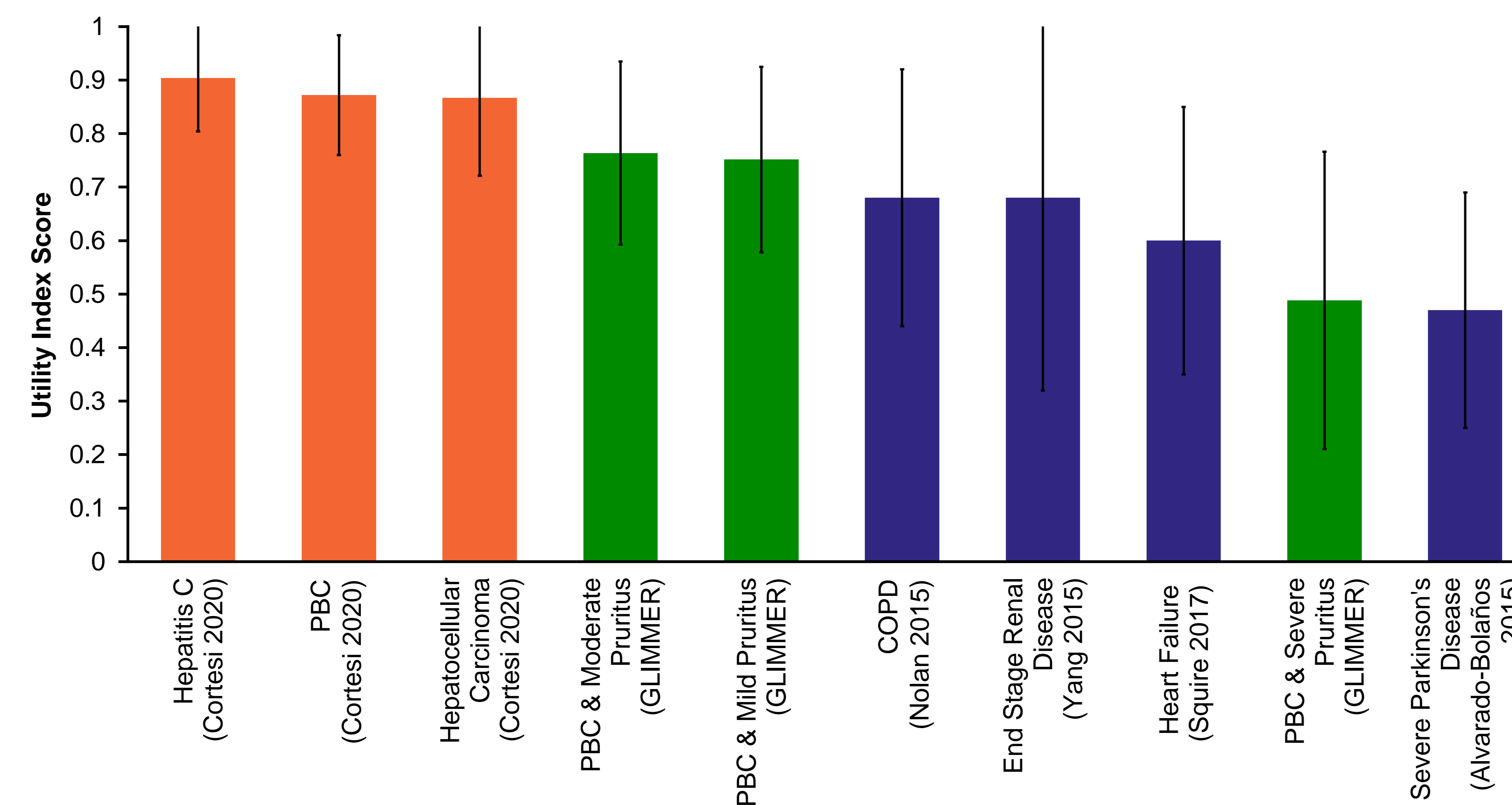
- GLIMMER was a 12-week, double-blind, randomized, placebo-controlled, phase 2b study of linerixibat for patients with PBC and pruritus.
- Patients in GLIMMER recorded itch twice daily on a 0–10 numeric rating scale (NRS) and, completed the EQ-5D-5L instrument at study entry, baseline and end of study treatment. Baseline followed a 4-week single blind placebo run in period.
- EQ-5D utility values were calculated using the nonparametric model mapping function from the EQ-5D-5L to EQ-5D-3L developed by van Hout et al.² and the UK population norms value set.³
- Patients were classified as having mild (=3), moderate (≥ 4 to < 7) or severe pruritus (≥ 7 to 10) using the mean Worst Daily Itch score from the NRS in the 7 days prior to baseline.
- A targeted literature review was conducted to identify health utilities for more common and, crucially, better understood conditions to aid comparison and communication of the impact that cholestatic pruritus can have on health related quality of life.

Results

- The GLIMMER population (N=147) was 94% female with a mean (SD) age at baseline of 55.8 (11.04) years.
- Most patients had moderate pruritus (n=76, 52%), and similar numbers had mild (n=35, 24%) and severe (n=36, 24%).
- Patients with mild or moderate pruritus at baseline had similar mean (SD) health utilities of 0.75 (0.17) and 0.76 (0.17). **Patients with severe pruritus at baseline had notably worse health utility 0.49 (0.28).**
- The 2020 study by Rice et al¹ reported health utility for the general PBC population as 0.87 (0.11). **Regardless of itch severity, patients with pruritus had lower health utility than the general PBC population** illustrating the pervasive impact pruritus has on quality of life in patients with PBC.

Patients with severe pruritus had a health utility similar to patients with severe Parkinson's disease

Figure 1. Health utility mean (SD) of patients with PBC Pruritus compared with liver-related and other conditions



COPD, chronic obstructive pulmonary disease; PBC, primary biliary cholangitis; SD, standard deviation

- A range of conditions, both liver-related and not were included in the review and compared with the health utilities seen in patients in GLIMMER (Figure 1).
- Patients with severe pruritus at baseline had a health utility similar to patients with severe Parkinson's disease (0.47 [0.22]; Figure 1).⁴ Whereas those with mild and moderate cholestatic pruritus fare worse on average than the overall PBC population as well as patients with hepatitis C and hepatocellular carcinoma.
- A separate systematic literature review⁵ identified seven publications citing health utilities for liver disease with a range of mean health utility scores from 0.59 to 0.81.
- Over the course of the study **health utility declined in the placebo group (-0.01) and increased across all linerixibat treatment arms (0.04–0.05)**. Although improvements were small (confidence intervals crossed zero), the directional change is indicative of a treatment effect of linerixibat. The efficacy of linerixibat in treating cholestatic pruritus and its impact on sleep and quality of life is being evaluated in the ongoing Phase 3 GLISTEN study (NCT04950127).

Conclusions

- Cholestatic pruritus (particularly severe pruritus) has a significant negative impact on HRQoL and health utility in PBC patients.
- Presence and severity of itch should be evaluated in PBC and prioritised in treatment plans.

References

- Rice S, et al. *Clin Gastroenterol Hepatol*. 2021;19:768–76.
- van Hout B, et al. *Value in Health*. 2012;15:708–15.
- Crosswalk Index Value Calculator – EQ-5D (euroqol.org) <https://euroqol.org/eq-5d-instruments/eq-5d-5l-about/valuation-standard-value-sets/crosswalk-index-value-calculator/> (accessed 20 April 2022).

- Alvarado-Bolaños A, et al. *J Neurol Sci*. 2015;358:53–7.
- Van Wilder L, et al. *Qual Life Res*. 2019;28:3153–3161.
- Cortesi PA, et al. *Liver International*. 2020;40:2630–42.
- Nolan CM, et al. *Thorax*. 2016;71:493–500.

- Yang F, et al. *Eur J Health Econ*. 2015;16:1019–26.
- Squire I, et al. *Br J Cardiol*. 2017;24:30–4.

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