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EPIDEMIOLOGICAL AND HUMANISTIC BURDEN OF CHRONIC HEPATITIS B ACROSS FOUR HIGH-BURDEN COUNTRIES IN ASIA: A TARGETED LITERATURE REVIEW

EPH28

Acceptance code

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Background

Chronic hepatitis B (CHB) affects 254 million people globally and causes approximately 1.2 million deaths each year, primarily due to cirrhosis and hepatocellular carcinoma (HCC). Despite the availability of effective viral-suppressive therapies, major gaps remain across the CHB care continuum, with only an estimated 13% of people living with CHB diagnosed globally, and fewer than 3% are receiving treatment.

The Asia-Pacific region accounts for 59% of all CHB cases and 79% of hepatitis B virus (HBV)-related deaths. The burden of CHB is concentrated in the Asia-Pacific region, with growing recognition of co-infections. This Targeted Literature review aimed to characterize the epidemiological and Humanistic burden of CHB in four high-burden Asian countries includes China, India, Thailand, and Vietnam. Available evidence indicates considerable heterogeneity in CHB epidemiology and patient-reported burden.

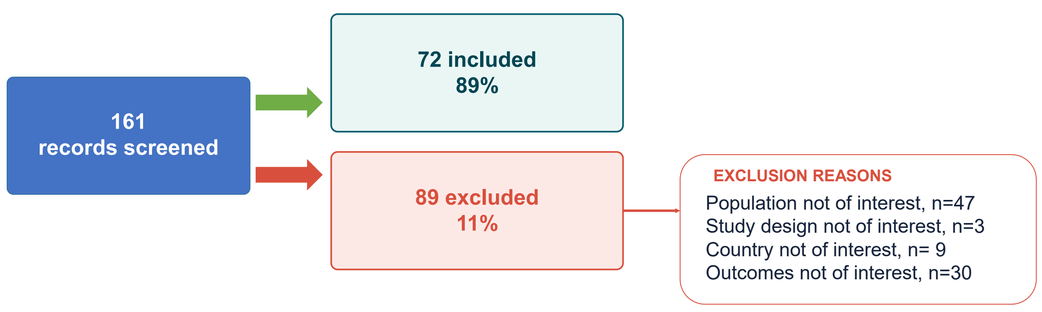
Study objective

Primary: Despite this disproportionate burden, real-world epidemiological and health-related quality of life (HRQoL) burden of CHB across the four highest-burden Asian countries (China, India, Thailand, Vietnam) remains fragmented. This targeted literature review (TLR) aimed to synthesise evidence on the epidemiological and humanistic burden of CHB across these countries to address this evidence gap.

Methods

- A TLR was conducted in PubMed to identify studies reporting epidemiological outcomes (prevalence, incidence) or humanistic outcomes (HRQoL utility scores, patient-reported outcomes [PROs], fatigue, and psychological impact) in adults (>=18 years) with CHB (HBsAg-positive >=6 months and/or confirmed by HBV DNA detection) in China, India, Thailand, and Vietnam, published January 2015 through April 2026. Eligible study designs included randomized controlled trials (RCTs), observational studies (cross-sectional, cohort, case-control, retrospective designs), and quality-of-life studies. Studies exclusively reporting acute HBV, pediatric populations, or lacking CHB-specific outcomes were excluded.

Study identification and screening flow



Extraction and categorization

Data were extracted using standardized, pre-piloted extraction forms. Extracted variables included country, study design, setting, population characteristics, sample size, CHB definition, outcome domain, endpoint definitions, follow-up duration, analytical level, and relevant quantitative results. Analytical level was categorized as national, regional/ multicentre, hospital-based, single-state, or selected subpopulation. Because estimates from different analytical levels are not directly comparable.

Results

A total of 72 studies were reviewed. Study designs were predominantly observational (retrospective cohorts, cross-sectional and population-based prevalence surveys), with a limited number of randomized controlled trials.

Figure 1. Geographic distribution of Included studies

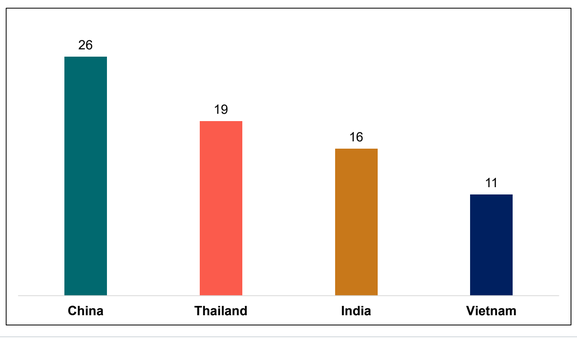
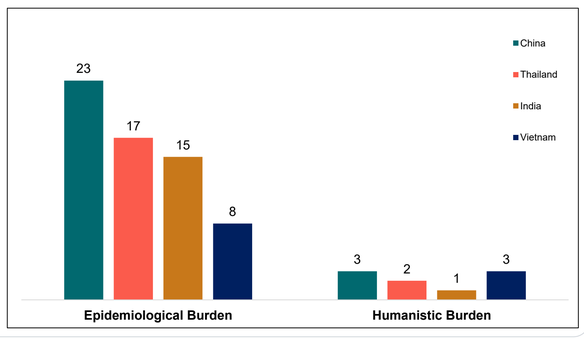


Figure 2. Burden specific Distribution of studies



Epidemiological Burden

CHB prevalence varied markedly across countries. Based on estimates from the WHO and the Polaris Observatory, Vietnam had the highest prevalence (7-11.2%), followed by an intermediate-burden group comprising China (4.9%), India (2.0%), and Thailand (1.8%).

Figure 3. Prevalence by Country and Data Source

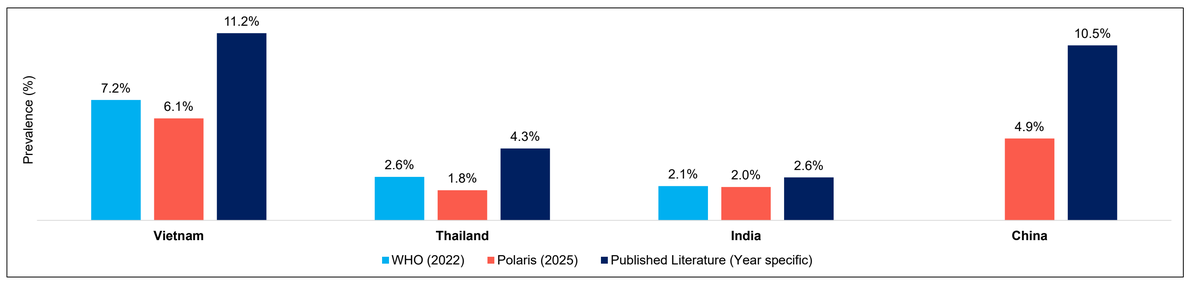


Figure 4. Prevalence of Cirrhosis at diagnosis

Cirrhosis prevalence at the time of CHB diagnosis varied considerably across and within countries, reflecting differences in diagnostic practices, screening coverage, and healthcare access. Vietnam reported the lowest rates (2.1-12.3%), suggesting earlier diagnosis, while China showed the greatest variation (15.8-92%). India (8.8-32.3%) and Thailand (2.9-34.6%) also demonstrated substantial heterogeneity in cirrhosis prevalence in clinical presentation and case detection across different sites.

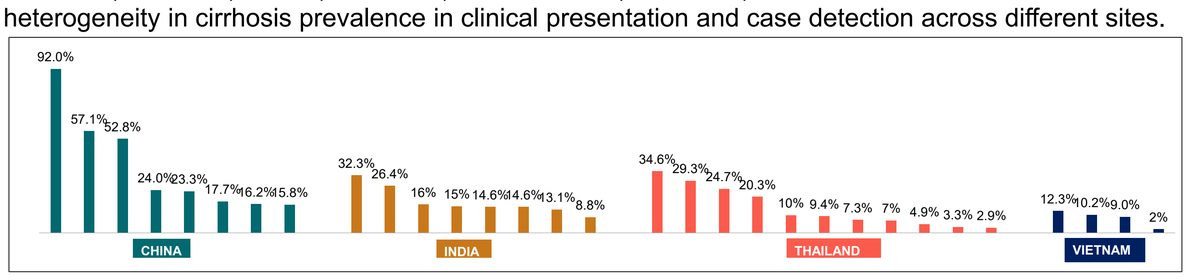


Figure 5. Prevalence of HCC at diagnosis

HCC prevalence at diagnosis varied considerably across countries, indicating differences in disease stage at presentation. Thailand reported the widest range of HCC prevalence (0.9-50.9%) and the highest rates overall, while Vietnam also showed a relatively high prevalence (33.7%). China reported an HCC prevalence of (1-6.1%). In contrast, India had the lowest reported prevalence (3.2%), which may reflect earlier detection of CHB or a lower baseline risk of HCC compared with other Asian countries.

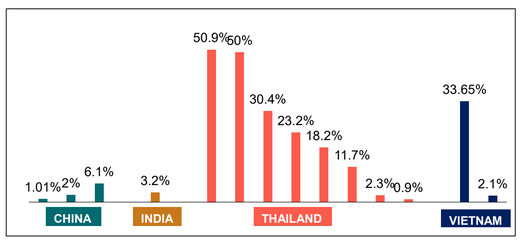
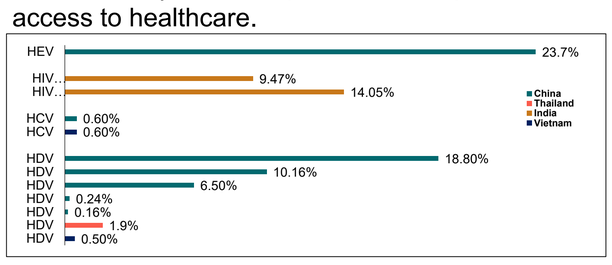


Figure 6. Prevalence rates of co-infections in CHB Population

Co-infection patterns showed substantial regional variation across regions and populations. HDV prevalence was generally low in Vietnam (0.5%) and Thailand (1.9%) but ranged widely in China (0.16%-18.8%). China also reported HIV and HEV prevalence of 0.03% and 23.7%, respectively. India demonstrated a notable HIV co-infection burden, with prevalence of 14.05% among PWID and 9.47% among MSM. Overall, co-infection prevalence in CHB is highly context-dependent and tends to be higher in populations with increased exposure risk, comorbidities, or limited access to healthcare.



Humanistic Burden

HRQoL declined with disease severity: EQ-5D utility scores ranged from 0.90-0.95 (non-cirrhotic CHB) to 0.52 (advanced HCC) across four Asian countries. Similarly, SF-36 scores showed a consistent decline from CHB through decompensated cirrhosis to HCC, while EQ-5D-VAS scores also declined as the disease progressed. CLDQ indicated moderate QoL in China, with systemic symptoms driving the greatest decrements.

Figure 7: Utility values of Health States of Included Records

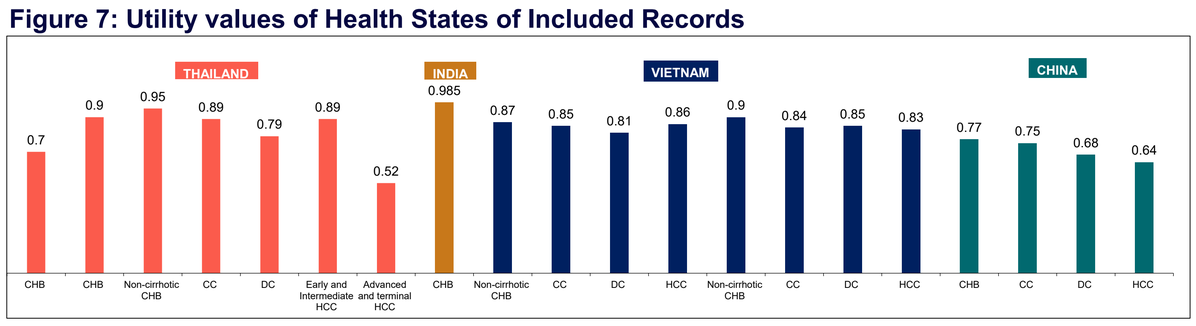


Figure 8: EQ-5D VAS score response of Included Records

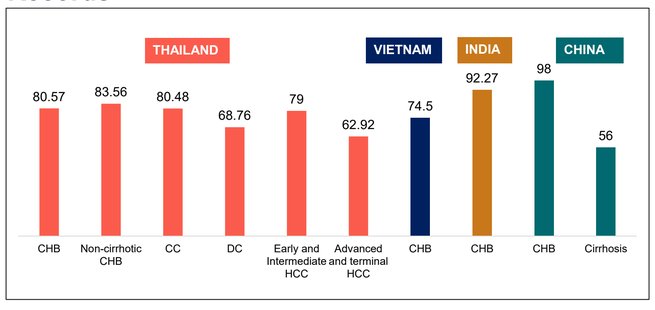


Figure 9: CLDQ response in China

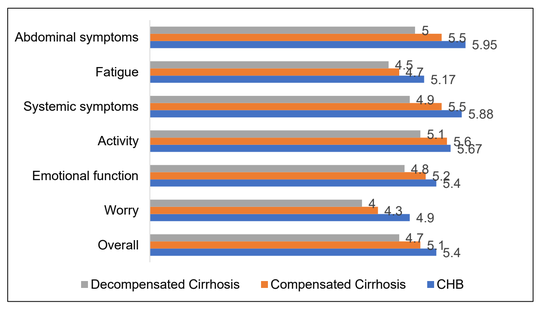
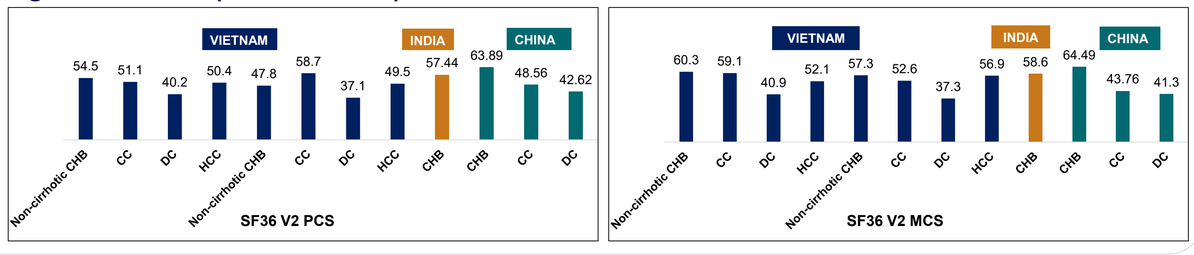


Figure 10: SF-36 (PCS and MCS) values of Included Records



Conclusion

- CHB imposes a considerable and heterogeneous burden across China, India, Thailand, and Vietnam, with marked cross-country differences in prevalence, cirrhosis, and HCC rates at diagnosis. HRQoL is consistently impaired across all disease stages. Standardised, country-level burden evidence is needed to support regional CHB elimination goals and strengthen evidence base across Asia.

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Abbreviations

CHB - Chronic Hepatitis B; CLDQ - Chronic Liver Disease Questionnaire; CC - Compensated Cirrhosis; DC - Decompensated Cirrhosis; EQ-5D –EuroQol 5 Dimension; HCC - Hepatocellular Carcinoma; HRQOL- Health - related quality of life; MCS - Mental Component Summary; PCS - Physical Component Summary; QOL – Quality of Life; SF - 36 – 36 Item Short form Survey; VAS – Visual Analogue Scale; WHO - World Health Organization

Disclosures & disclaimer

No financial disclosures reported.