



## Letter to the Editor

# Current Status of Chronic Liver Disease Worldwide



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Chronic liver disease (CLD) is a public health threat worldwide. The recent data from the Global Burden of Disease in 2019 showed CLD accounts for 1.8% of the global burden of disease also, and that it has increased disability-adjusted life years by 33%.<sup>1</sup> Most CLD mortality occurs in low and middle-income countries in Asia and Africa. In Iran, 1.42% of total deaths in 2017 are attributed to CLD and cirrhosis.<sup>2</sup> CLD includes cirrhosis and non-cirrhotic CLD which is defined as a collection of diseases including intrahepatic inflammatory necrosis and/or fibrosis resulting from different etiologies lasting for at least 6 months.<sup>3</sup> Additionally, a sequelae is acute liver injury and/or acute decompensation of liver cirrhosis which is considered acute-on-CLD and manifests typically in hospitalized patients with a high risk of death.<sup>4</sup>

Currently, the epidemiological distribution of CLD etiologies is reshaping around the world that its identification has great importance because it can be used to assess the effectiveness of interventions for healthy living and aid health policymakers to designate effective preventive strategies and herein, reduce the burden of disease. In recent years, virus-related cirrhosis has been reduced with use of antiviral agents for hepatitis C virus (HCV) treatment and nationwide vaccinations for hepatitis B virus (HBV); however, alcohol abuse and obesity-related cirrhosis are increasing steeply due to an increase in a sedentary lifestyle and metabolic syndrome, such as non-alcoholic fatty liver disease (NAFLD).<sup>5</sup> Based on data from Global Burden of Disease in 2017, the age-standardized mortality rate of HBV and HCV-related cirrhosis death decreased, the mortality from cirrhosis by HBV, which is a leading cause of cirrhosis and hepatocellular carcinoma, is high in developing countries.<sup>6</sup> In Iran, HBV prevalence decreased from 2.9% before 2010 to 1.3% after 2010 due to an effective national immunization program; however, in recent years NAFLD constitutes a common cause of CLD due to an unhealthy lifestyle in the Iranian population, resultant from an increase in sedentary lifestyles, lack of physical activity, increased caloric intake, and central obesity.<sup>2</sup>

Since CLD progresses slowly and is asymptomatic before cirrhosis develops, the adoption of strategies for prevention and early

diagnosis is of utmost importance in order to reduce the cost of treatment and the burden of CLD. For example, fatty liver disease due to obesity, diabetes, and alcohol abuse commonly leads to cirrhosis. Therefore, appropriate screening, such as measurement of hepatic enzymes and abdominal sonography, can be offered in the primary care setting to appropriate patients with main risk factors for CLD, such as having each component of metabolic syndrome or viral hepatitis. Both alcohol consumption and smoking can promote the progression of fibrosis in patients with chronic liver disease and therefore, abstinence from alcohol and smoking, along with antiviral therapy for HBV and HCV can be preventive. It is worth mentioning that the test performance in population screening encounters a key challenge due to the sensitivity and specificity of the test used as well as the prevalence of the disease. The number of studies using noninvasive tests for the screening of liver disease is scarce.<sup>7</sup>

Additionally, the pediatric obesity epidemic (hepatic manifestation of the metabolic syndrome) is parallel with the increased incidence of NAFLD mainly in overweight or obese children and also, in children with normal or lean body mass index namely lean NAFLD. It is always asymptomatic at diagnosis and progresses to hepatic fibrosis and cirrhosis with ongoing liver injury to nonalcoholic steatohepatitis.<sup>8</sup> Children and adolescents with NAFLD are more at risk for not only intrahepatic diseases but also for many extrahepatic diseases such as dyslipidemia, hypertension, diabetes, atherosclerosis, and even changes in cardiac ventricular structure as well as systolic and diastolic dysfunction. In this context, acute-on-chronic liver failure is poorly defined in pediatric patients; however, the definition in adults can be used for children. It characterizes a syndrome with a poor prognosis as a liver failure with one or more extrahepatic organ failures caused by acute hepatic decomposition.<sup>9</sup>

Liver disorders in children are different from those of adults and show variation with geographical locations and age of children. For example, biliary atresia, congenital hepatic fibrosis, and tyrosinemia in the first years of life along with chronic viral hepatitis C and B, autoimmune hepatitis, Wilson's disease, and cystic fibrosis in older children, and recently NAFLD have been identified as common etiologies of CLD. The mean prevalence of NAFLD was reported to be 34% in obese children and 7.65% in all children, respectively, which is alarming because liver disease in children is a precursor for CLD in adults. The prevalence of NAFLD among Asian obese children is even higher than that in Europe and North America.<sup>10</sup>

In summary, preventive strategies and early diagnosis to curb CLD burden are key. The most reasonable preventive strategies

**Keywords:** Chronic liver disease; Non-alcoholic fatty liver disease; Hepatitis B virus; Hepatitis C virus.

**Abbreviations:** CLD, chronic liver disease; HBV, hepatitis B virus; HCV, hepatitis C virus; NAFLD, non-alcoholic fatty liver disease.

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could be lifestyle modification in the population, especially in children, to prevent NAFLD by decreasing the daily caloric intake and increasing physical activity. Furthermore, given that NAFLD is primarily asymptomatic, widespread screening to achieve an early diagnosis for liver fibrosis, especially in low and middle income communities with high burden of disease, is critical.

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### Conflict of interest

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### References

- [1] GBD 2019 Diseases and Injuries Collaborators. Global burden of 369 diseases and injuries in 204 countries and territories, 1990-2019: a systematic analysis for the Global Burden of Disease Study 2019. *Lancet* 2020;396(10258):1204–1222. doi:10.1016/S0140-6736

- (20)30925-9, PMID:33069326.
- [2] Anushiravani A, Ghajarieh Sepanlou S. Burden of Liver Diseases: A Review from Iran. *Middle East J Dig Dis* 2019;11(4):189–191. doi:10.15171/mejdd.2019.147, PMID:31824620.
- [3] Ouyang R, Li H, Xia J, Wang X, Zheng X, Huang Y, *et al*. Lower platelet counts were associated with 90-day adverse outcomes in acute-on-chronic liver disease patients. *Ann Palliat Med* 2021;10(9):9342–9353. doi:10.21037/apm-21-1019, PMID:34412498.
- [4] Zhang YY, Meng ZJ. Definition and classification of acute-on-chronic liver diseases. *World J Clin Cases* 2022;10(15):4717–4725. doi:10.12998/wjcc.v10.i15.4717, PMID:35801045.
- [5] Fan JG, Kim SU, Wong VW. New trends on obesity and NAFLD in Asia. *J Hepatol* 2017;67(4):862–873. doi:10.1016/j.jhep.2017.06.003, PMID:28642059.
- [6] Ye F, Zhai M, Long J, Gong Y, Ren C, Zhang D, *et al*. The burden of liver cirrhosis in mortality: Results from the global burden of disease study. *Front Public Health* 2022;10:909455. doi:10.3389/fpubh.2022.909455, PMID:36033800.
- [7] Ginès P, Castera L, Lammert F, Graupera I, Serra-Burriel M, Allen AM, *et al*. Population screening for liver fibrosis: Toward early diagnosis and intervention for chronic liver diseases. *Hepatology* 2022; 75(1):219–228. doi:10.1002/hep.32163, PMID:34537988.
- [8] Sweeny KF, Lee CK. Nonalcoholic fatty liver disease in children. *Gastroenterology & Hepatology* 2021;17(12):579.
- [9] Islek A, Tumgor G. Acute-on-chronic liver failure in children. *World J Hepatol* 2021;13(10):1289–1298. doi:10.4254/wjh.v13.i10.1289, PMID:34786166.
- [10] Abou-Taleb A, Ahmed A, El-Hennawy A. Pediatric chronic liver diseases: a clinicopathological study from a tertiary care center. *Int J Pediatr* 2019;7(4):9305–9315. doi:10.22038/ijp.2019.37294.3246.