



Reply to: “Alcohol-associated liver disease, not hepatitis B, is the major cause of cirrhosis in Asia”

To the Editor:

We appreciate the comments by Singh *et al.* regarding our review article “Burden of liver diseases in the world”.¹ The data presented in our paper was extracted from published sources particularly World Health Organization (WHO) publications and published literature. The causes of liver disease in Asia were generalized and we did not dwell specifically into causes of liver diseases in the populous countries of China and India.

Singh *et al.* quote several studies on patients from tertiary care referral centres in India, published in regional journals. Using such studies to derive conclusions regarding national prevalence of disease may have methodological limitations. Further, the studies cited may have weaknesses as they addressed portal hypertension, thyroid dysfunction in cirrhosis, acute precipitants of acute-on-chronic liver failure and causes of decompensation in cirrhosis rather than specifically focussing on determining the aetiology of disease.

Further, Table 4 in our paper¹ was in relation to the highest burden of age standardized death rates in various countries; they were not in relation to quantum of burden in overall population. In Table 1, herein, we report age standardized death rates from alcohol across the top 10 most populous countries in Asia. Although the data was extracted from a recent publication from WHO,² the numbers in Table 1 are much smaller than the numbers quoted in Table 4 of our original publication.^{1,3} Indeed, population attributable fractions for cirrhosis stratified by causes of liver disease such as hepatitis, B, C and alcohol, still demonstrate hepatitis B as the major cause in all regions of Asia including India which is a part of South Asia (see Table 2).⁴

A recent multi-centre study from India with the specific aim of determining the aetiology of chronic liver diseases among new patients seen in an inpatient setting (n = 13,014) concluded that HBV was the most common cause of chronic liver disease (33.3%), followed by HCV (21.6%), alcohol (17.3%), and non-alcoholic fatty liver disease (12.8%).⁵ When stratified by presence of cirrhosis (n = 4,413), alcohol was the most common cause (34.3%); a significant limitation of this data was that more than 99% of patients with cirrhosis were decompensated and may not accurately reflect the burden of cirrhosis.⁵ Further there was significant regional heterogeneity within different regions of

Table 2. Population attributable fractions for cirrhosis risk factors by Asian region in 2010.

Region name	Alcohol	Hepatitis B	Hepatitis C	Other
	2010	2010	2010	2010
Asia Pacific, High Income	0.24	0.31	0.25	0.20
Asia, Central	0.16	0.36	0.18	0.29
Asia, East	0.18	0.39	0.18	0.26
Asia, South	0.21	0.31	0.21	0.28
Asia, Southeast	0.19	0.27	0.23	0.31

Data adapted from Mokdad AA, Lopez AD, Shahraz S, et al. Liver cirrhosis mortality in 187 countries between 1980 and 2010: a systematic analysis. *BMC Med* 2014;12:145.

^{*} Cases that were not attributable to chronic alcohol intake, and who tested negative for HbsAg and anti-HCV antibodies. HbsAg, HBV surface antigen.

India; viral hepatitis B and C being more common in northern and eastern regions compared to southern regions where alcohol was more common.⁵ With increasing global coverage of universal vaccination against hepatitis B in India and the easy availability and affordability of direct-acting antivirals including provision for free treatments for hepatitis C in certain groups and regions, the burden of liver disease from B and C is expected to decrease in the future. Liver disease from alcohol is likely to increase in India in the absence of government policies aimed at reducing alcohol consumption.

Conflict of interest

The authors declare no conflicts of interest that pertain to this work.

Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jhep.2019.01.023>.

References

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Table 1. Global burden of alcohol-related cirrhosis mortality in Asia: Top 10 countries.

Country	Liver cirrhosis, age standardized death rates per 100,000 population (15+)		Total population
	Male	Female	
China	14.6	8.3	1.37 billion
India	45.8	14.7	1.299 billion
Indonesia	51.1	27.1	255.46 million
Pakistan	28.7	30.1	191.78 million
Bangladesh	35.8	15.2	158.76 million
Japan	10.9	4.3	126.89 million
Philippines	21.1	6.3	102.96 million
Vietnam	44.5	8.6	91.81 million
Iran	11.4	7.7	78.77 million
Turkey	14.2	7.5	78.21 million

Data adapted from Global Status Report on Alcohol and Health 2018, Geneva, World Health Organization; 2018. WHO, World Health Organization.