**RAPID COMMUNICATION**

**Viral hepatitis and the Global Burden of Disease: a need to regroup**

The publication of the updated Global Burden of Disease (GBD) [1,2] provides a broad overview of the challenges to global health. As with the previous surveys [3], it is likely that over the coming years, the GBD will be used (and abused) to justify greater resources to combat different diseases. Whatever concerns there might exist about the robustness of the data, in the absence of any other systematic attempt to describe global disease, these data matter. How they are presented matters too, particularly in relation to viral hepatitis.

In this survey, as in previous surveys, liver disease does not feature prominently in the overall global disease rankings. Cirrhosis, the highest liver-specific diagnosis, is ranked 23rd (C.I. 19–27) in the overall causes of disease (the same ranking as in the 1990 survey). Whilst of undoubted clinical and public health importance, cirrhosis is the final common end point for many different diseases, as is hepatocellular carcinoma (HCC). The same data can be presented differently to estimate the global needs for treatment and prevention of liver disease, in particular viral hepatitis. These data are important, given the progress in medical science that creates the potential for tackling viral hepatitis globally.

The 2010 GBD spreads the burden of disease attributable to viral hepatitis across different categories, with lost Disability Adjusted Life Years (DALYs) presented separately for acute infection, cirrhosis and hepatocellular carcinoma (HCC). The choice of how different causes of disease are clustered for comparative ranking is often the cause for debate, and decisions are, in part, made ‘because of considerations related to public health programmes’ [1]. In this context, whether cirrhosis is the most useful grouping for overall rankings can be questioned, and regrouping the data can give an estimate for the global burden of viral hepatitis (see Table 1).

These data are not perfect. In some cases, for example, the methodology for estimation uses prevalence data for infection rather than measures of disease itself [4], but high-quality prevalence data are lacking for many parts of the world. Estimating the burden of acute infection and end-stage disease requires assumptions that are open for debate. Nonetheless, these regrouped data indicate that viral hepatitis accounts for the loss of approximately 42 779 000 DALYs. How this would translate to a disease ranking is harder to predict as the final rankings are based on multiple simulation, but viral hepatitis would sit around 17th, just behind neonatal sepsis. Grouped together, viral hepatitis accounts for a greater loss of DALYs than many other communicable diseases (e.g. pneumococcal pneumonia). Taking a similar approach to mortality data alone (as opposed to DALYs) would put viral hepatitis into the top 10 leading causes of mortality, above TB and malaria. Such regrouped estimates may yet be underestimates given experience in Western settings [5]. For example, a substantial proportion of global HIV-related morbidity and mortality may be due to co-infection with viral hepatitis.

How diseases are grouped together matters when it comes to allocation of public health resources and research funding. By bundling several widespread, treatable disorders that do not individually feature in the global burden of disease, the concept of neglected tropical diseases (NTDs) has proven helpful in increasing political attention, research and development funding, and disease control programmes for diseases such as schistosomiasis and trachoma, which would otherwise struggle to be visible. Even grouped together, the NTDs have a far lower burden of disease (as measured by DALYs) than viral hepatitis.

Should viral hepatitis be bundled with all liver diseases to improve their profile? There are some reasons that this might be helpful, not least the existing professional organizations focussed on liver disease, and such organizations have an important role to play in improving the quality of hepatology services throughout the world. Amongst DALYs lost due to other liver diseases, alcohol provides by far the largest contribution. By grouping together alcohol-related liver disease with viral hepatitis, liver disease would rank above TB and diabetes in the 2010 GBD. However, if the

<table>
<thead>
<tr>
<th></th>
<th>Acute infection</th>
<th>Cirrhosis</th>
<th>HCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis A</td>
<td>4351 (2412–9026)</td>
<td>8990 (7792–10 912)</td>
<td>8938 (7729–10 877)</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>4674 (3189–6052)</td>
<td>8902 (6370–8553)</td>
<td>4141 (3542–4859)</td>
</tr>
<tr>
<td>Hepatitis C</td>
<td>518 (378–713)</td>
<td>7452 (6370–8553)</td>
<td>12 111</td>
</tr>
<tr>
<td>Hepatitis E</td>
<td>3715 (1552–7470)</td>
<td>16 442</td>
<td>13 079</td>
</tr>
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<td></td>
<td>13 258</td>
<td></td>
<td>42 779</td>
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</tbody>
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aim of such a grouping is to influence policy, bundling alcohol and viral hepatitis has disadvantages. There is relatively little overlap in the interventions required to control both sets of diseases and the professional groupings that deal with them. In some countries with very high burdens of HCV, alcohol is not part of everyday life, and the breadth of challenge from alcohol (not just liver disease but psychiatric illness, trauma, domestic violence, etc.) is probably not best served by an organ-specific focus. Advocacy has the potential to be more effective if pursued in parallel.

The coming years are going to see further rapid changes in our ability to prevent and treat viral hepatitis. Better vaccines and drugs will make the control of these global infections feasible but will require substantial resources. Grouped together, the viral hepatitides are a leading cause of global disease. The challenges of intervention overlap in the areas of vaccination (particularly hepatitis A and B) and treatment (hepatitis B and C). As the fight against neglected diseases has shown, advocating with a clear message to combat diseases with common challenges is one part of the solution if all who could benefit from medi-
cal advances are to be able to access them. Presenting the data for viral hepatitis together is a start.

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