Commentary

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Comment on Rehm and Room

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The article by Rehm and Room (2017) elaborates and continues the argument presented earlier by the authors and a number of other colleagues (Rehm et al., 2013). Criticising the use of diagnostic criteria oriented to the ICD-10 and DSM-5 in the global burden of disease (GBD) collaboration, they argue that the best, most reliable and comparative indicator of harm to health from alcohol use in a population is the level of consumption and its pattern; the latter meaning its concentration in average drinking occasions. In contrast, data on self-reported experiences of intoxication, loss of control and related topics, and even more so diagnostic data, are culture-specific and do not reflect actual health impairment. The criteria included in the diagnostic manuals are seldom used in clinical practice, and if they are, they are subject to variations depending on the acceptability of drunkenness in each culture. Therefore, very low figures are obtained for Italy, and extremely high ones for Russia and Latvia, for example, whereas the real burden of health from alcohol more closely reflects the amount of heavy use over time.

The argument, and the evidence that the authors present to support it, are convincing, so far. When health consequences are understood as the effects of the molecule ethanol in the body, administered either evenly in frequent occasions, or in high concentrations at a time, it is quite logical that the amount and pattern of exposure to the "agent" is more important than anything people conceive to be caused by it. Measurements aiming at comparability between populations and across time should be as little as possible affected by cultural perceptions.

The next issue is how to account for variations in vulnerability among different populations. The GBD approach can and does control for age, sex and socio-demographic index (SDI) in disease-specific calculations of disability-adjusted life years (DALYs), combining excess mortality or years of life lost (YLLs) and years of life with disability (YLDs). This can be done

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with amount and variability of alcohol use as well, to the extent population surveys can be relied on (in itself a matter of debate). The more difficult issue is that amount and pattern of drinking are exposure variables, unlike data on mortality for YLLs and indicators of the severity and length of disabilities caused by specific diseases. The same amount of exposure in one population has stronger health impacts than in another, depending on other factors such as genetic constitution, or environmental conditions such as nutrition, climate or air and water pollution. Also health-related socio-economic factors such as nutrition, hygienic conditions or other confounding health indicators of the population have a bearing on the impact of alcohol use. An issue in itself is the role of co-morbidities that affect the health impact of alcohol intake, such as diabetes and cardiovascular diseases. It would be interesting to know more about how the authors would infer global, regional or sub-national population health impacts of alcohol, especially from overall per capita consumption data in circumstances where information on differential vulnerabilities is not available.

Another issue is recognised by the authors themselves. If "culture" is a noise factor in estimating the health impact of the ethanol molecule on the individual, it is a key element in behaviours that affect the burden caused on society, including health, by drinking. This concerns harm to other persons connected (or not) with the drinkers. Alcohol-related violence causes heath loss but is certainly a factor with great cultural variation. Harm to children of drinking parents is a similar case. In some cultures parental drinking, even at moderate levels, may have negative effects on children's health; in others not. One solution is to leave such health effects aside, and make it explicit that they are not included in comparative calculations of the burden of disease caused by alcohol use. I am not sure if this is what the authors mean when they write: "... the dimensions of condition and experience which have composed 'alcohol-use disorders' need to be dealt with separately – not only in terms of measurement, but also in terms of analysis and interpretation" (Rehm & Room, 2017, p. 337).

The authors further criticise the current move away from differentiated dimensions of alcohol problems in disease classifications, to lump them together under a general category of "alcohol-use disorder", indicating a clinical conceptualisation of alcohol problems in terms of a single underlying condition. I strongly agree with this point: one of the most neglected areas in alcohol research and addiction studies in general is the pathways to and types of persistent heavy use. Further medicalisation should not reinforce this neglect. On the contrary, understanding types, pathways and boundaries of addiction, including heavy use of alcohol, should be a key priority in both prevention-oriented and treatment research. Here, cultural images are not only a matter confusing the measurements; they are part of the causal link between exposure and effect. To advance in this direction, however, reducing culture to norms – what is acceptable and what is not – is inadequate. Functions, use-values and meanings are partly independent dimensions of the behavioural patterns and their consequences, not only theoretical traditions of interpreting them (Sulkunen, 2015).

Once this path is broken, the question arises about the limits of what is conceptualised as the health burden of alcohol, for which the amount and pattern of consumption are proposed to be the most valid indicators. Restricting the concept to chronic and acute direct effects and sequelae of drinking on the body would go against the founding logic of the GBD approach, which aims to cover not only the loss of life but "the gap between the population's present health status" and its "ability to live in full health" in general (GBD 2015 Disease and Injury Incidence and Prevalence Collaborators, 2016). The path is blocked at both ends. Culture-sensitive indicators of alcohol-related health impairment distort the picture by exaggerating intoxication-related harm in cultures where intoxicating is acceptable while minimising it in countries like Italy, where intoxication

is against the norms. Vice versa, culturally insensitive indicators of heavy use over time do it another way, minimising the actual impact on vulnerable populations and overestimating the harm in cultures that actually act as protective factors, especially as regards (even health-related) harm to others.

Such questions are not unique to alcohol epidemiology. They follow from the ambition to reduce national and sub-population differences in alcohol-related harm to one single dimension: cause-specific impact on population health. Gambling, now making its way into diagnostic manuals and disease classifications, is a good example. The prevalence and incidence indicators commonly used for gambling disorders (terminology varies), similar to those used for alcohol, are almost useless, partly for the same reasons. There is no single exposure factor to be measured, as indicators of amount and pattern hide a variety of practices, game features and venue characteristics that are relevant. Gambling has health effects on the population, but assigning a quantifiable causal role to it is subject to too many confounding factors in a comparative manner (Sulkunen et al., forthcoming). There is and will be no solution to these problems. The case is similar for other lifestyle components in the burden of disease calculations.

Rehm and Room with their colleagues are raising a very important point that is not technical or methodological. It leads me to ask what is the rationale and adequacy of entering lifestyle components into burden of disease calculations in the first place. Politically it is attractive: if lifestyles are responsible for a major part of health impairment in the global population, governments should seek ways of changing them – and in the case of alcohol, tobacco, gambling, drugs, sugar, eating in general, and exercise, this cannot be done without regulating the supply and other conditions beyond individuals' own efforts. The question is how credible and transparent the calculations can be, and to what extent will they ever be adequate for comparisons across populations and in time, if culture – the essential ingredient in the behaviour – must be eliminated from them.

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