Reviewer's report

Title: Teenage drinking, alcohol availability and pricing: a study of risk and protective factors for alcohol-related harms in school children

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Reviewer: Girdhar Agarwal

Reviewer's report:


The problem considered here is important. The article has already been reviewed by five researchers, who have gone in detail and have given thorough feedback. Therefore, I shall restrict myself to sampling and analysis part:

1. The sampling is multi-stage as the data were collected from 140 schools across 19 local authorities. Of course, it is not clear how samples were chosen within each school.
2. Firstly, 11724 questionnaires were distributed. Then sample was restricted to those aged 15 or 16 years (n = 9833) and again restricted to those consuming alcohol (n = 8263). My question is: why the required sample of 8263 subjects was not taken in the first place by choosing inclusion and exclusion criteria?
3. A good number (n = 298, 3.6%) are excluded as non-respondents. Since this constitutes almost 4% of the total subjects in the study, their characteristics, the reason for non-response should be reported.
4. The allotment of 2063 (25%) teenagers with no postcode, to arbitrary Lower super Output Area (LSOA) is not justified as it is directly associated to Index of Multiple Deprivation (IMD), an important risk factor.
5. In Table 2, different kinds of alcohol consumptions are overlapping, i.e. not mutually exclusive. In other words, there will be teenagers consuming one or more than one type of alcohols. So the chi-square test or ANOVA is not valid. It can be applied to mutually exclusive categories only.
6. In order to apply the above statistical tests, the subjects have to be sorted out according to (i) using alcopop only, (ii) using beer can or bottle only,.....and so on.
7. The same problem is in applying logistic regression in Table 4.
8. Since sampling is multi-stage, the multi-level methods have to be used in order to take into account the correlated structure within the sample taken at each level (i) local authorities and (ii) school. There is bound to be sufficient effects due to these two levels, especially school level. Due to school level variance, p-value of all the tests will reduce to a extent that some tests found significant (in individual
analysis, done here) may be insignificant (in multi-level analysis).

The above points have to be taken into account before taking any decision about the publication of this article.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.