Reviewer's report

Title: Hepatitis B and C: Prevalence and social factors associated with seropositivity among children in Karachi, Pakistan

Version: 2 Date: 27 April 2006

Reviewer: Pietro Luigi Lopalco

Reviewer's report:

General
The study is well designed and conducted. Maybe other infection markers (anti-HBs and anti-HBc in particular) should have been useful to better describe HBV circulation.
Some improvements could be done in multivariate analysis and in the discussion (especially in relation to vertical transmission)

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Methods and Results

1) In the multivariate analysis (both for HBV and HCV) you include a previous vaccination as a model variable, even if it does not show any significance level in the univariate analysis. This leads also to a strange positive association with "place of vaccination" and HBV infection: it is unlikely that the place of vaccination could play a role in the transmission if the vaccination itself is not at risk. I think that excluding those variables from the model could better describe the association with other variables (likelihood ratio could increase?). Actually the outputs of the multivariate model are a bit confusing.

2) Association between piercing and HBV/HCV infection is not documented (p value missing)

3) It could be useful to insert a table reporting ALL findings in univariate analysis (percentages, OR where available and p value) different than that one for multivariate model. It could help the reader to individuate the main (probable) risk factors. Findings in multivariate analysis could be shown in different tables and properly highlighted in Discussion

Discussion

HBV and HCV can follow different ways of transmission. In particular HBV in children is often associated to vertical transmission. In this paper both diseases seem to be linked basically to an improper use of syringes

Knowledge of HBV carriers among pregnant women and of the overall burden of infection (anti-HBs/anti-HBc Ab rates in population) could better clarify this finding. I mean, with a high degree of circulation it is likely that the vertical transmission can easily occur. It's important also to know if there is any program of anti-HBV vaccination for newborns from HBV positive women.

This is important also in relation to the suggested intervention: if the problem is principally related to safety of injections, then education and health care training are priority, otherwise vaccination should be prioritised.

Furthermore, in figure 2 there is an evidence for higher infection rate in males >13 yrs. Is it significant? How could we explain? Maybe sexual behaviour could have a role at that age? If it is just a "cohort effect", why it is not evident also for HCV and women?

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1) In the paragraph Methods>Data Management and Analysis Plan the multivariate analysis isn't mentioned.
2) figure 1 is redundant. Consider skip it

Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No