Author's response to reviews

Title: The Second Study of Infectious Intestinal Disease (IID2): Increased rates of recurrent diarrhoea in individuals aged 65 years and above

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Author's response to reviews: see over
The Editor  
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Dear Editor,

Re: MS 7141468109267314 - The Second Study of Infectious Intestinal Disease (IID2): Increased rates of recurrent diarrhoea in individuals aged 65 years and above

Thank you for the opportunity to re-submit the above manuscript and address the reviewers' comments. Please find enclosed a detailed response to each of the reviewers' comments, together with a revised version of the manuscript.

We hope that you will find this new version suitable for publication in BMC Public Health.

Yours sincerely,

Dr Clarence Tam
Corresponding author
MS: 7141468109267314 - The Second Study of Infectious Intestinal Disease (IID2): Increased rates of recurrent diarrhoea in individuals aged 65 years and above

Associate Editor's Comments:

"Please refer to the reviewer’s comments. Please strengthen the introduction section to accommodate diverse readership."

We have re-worked the introduction to describe the health problem in greater detail and strengthen the rationale for the current paper.

Responses to reviewers’ comments:
Reviewer: Mohammad Khan
Reviewer's report:
Introduction, para one second sentence, please introduce IID2 study to the reader.

We have added a sentence describing the purpose of the IID2 study

For the sake of diversity in readership, please provide a clinical and/or laboratory definition of IID.

We have added an introductory paragraph describing the main features of IID. The clinical case definition used in the IID2 study and in the present analysis is given in the methods section (first paragraph)

The reference from Australia is from a single analysis using data from two surveys to calculate incidence, since incidence cannot be estimated from one survey. At least I thought that results from two different surveys. It will be useful to phrase the sentence in a way where the reader does understand the information.

The Australian studies alluded to were two telephone-based surveys, in which respondents were asked to recall incident IID in the previous month. Because IID is generally of short-duration, such studies are commonly used to estimate IID incidence in the general population. We have changed the word “surveys” to “studies” to avoid confusion.

The sentence “In England and Wales, persons over 65 account for 15% of laboratory-confirmed campylobacteriosis cases ……” in the first para of introduction is confusing.

We have re-phrased this sentence to clarify, and revised the figures to reflect Campylobacter data for the most recent years, in which the elderly account for 20% of reported cases
The background is still very weak. Does not describe the health problem in question very well, does not provide a rationale for this analysis and the public health significance of the results for elderly population.

**We have re-worked the introduction to describe the health problem in greater detail and strengthen the rationale for the current paper.**

Other studies, at least the one from Australia showed that older population is at a lower risk compare to those younger than 64 years. Therefore a study that will look at the risk factors for the older population, where the authors themselves are excluding the high risk old homes, I wonder how the results may guide intervention programs in UK.

*We are unclear exactly what point the reviewer is making here. As with the Australian studies, our study also demonstrates a lower overall rate of IID among those aged 65+ years. This is clearly shown in Table 2. Where our study differs is in the ability to show that experiencing an IID episode is associated with a higher rate of a subsequent episode, and that this effect is more marked among the elderly. The interpretation is therefore that, even though the elderly as a whole experience less IID compared with other age groups, those that do are more likely to experience recurrent IID episodes, which points to a role of underlying conditions or lowered immunocompetence in a subgroup of the elderly population in particular. The IID2 Study aimed to estimate the incidence of IID in the general population, not specifically in institutionalised populations, for which separate studies would be necessary. Of necessity, institutionalised populations were excluded, because even though they might experience higher rates of IID, they constitute only a small fraction of the population, and it is difficult to obtain reliable denominators for these subgroups. The exclusion of institutionalised groups does not, however, have any bearing on the interpretation of our findings, namely that recurrent disease is more prominent among the elderly.*

What percentage of total sample was excluded for various reasons, such as non-availability of an interpreter?

*We have not included this information, because this is dealt with in detail in a previous publication and the report of the original study, both of which are freely accessible and to which we refer.*

Discussion:
First sentence: The authors hypothesis was the effect of previous episode on recurrence of IID by age. The statement needs revision, as age is not a modifiable risk factor, in case we find association of age with recurrence, there cannot be an intervention to prevent recurrence. Whereas by reducing the first
episode of IID in elderly population, one could reduce a follow up episode of IID.

We have re-phrased this sentence. As we explain in the following paragraphs, the association of recurrent IID with increasing age is likely to result from changes in immune function and host susceptibility with age.

Did the authors look for type of organism?

The IID2 Study included comprehensive testing, using both conventional and semi-quantitative PCR diagnostics, for a broad range of pathogens. However, as we mention in paragraph 4 of the discussion, the rate of isolation of individual pathogens was too low to allow us to investigate the effect of individual pathogens on recurrent IID in this analysis.