Reviewer's report

Title: Gastro-enteritis outbreak among Nordic patients with psoriasis in a health centre in Gran Canaria, Spain: a cohort study

Version: 1 Date: 26 July 2004

Reviewer: Ben Lopman

Reviewer's report:

General

Thank you for inviting me to review this paper. This manuscript presents the strategy and methods of an investigation of an outbreak of diarrhoea and vomiting. The outbreak occurred at a Norwegian health centre in the Canary Islands in 2002. The report is generally clear but I have some suggestions for clarification and revision.

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

Methods, analysis subtitle:

The explanation of the calculation of attack rates is confusing to me. The authors state that people who were ill on or after the 3rd of Nov were included in the denominator. Do the authors mean that all people who ate a particular item on the given dates were in the numerator and those who subsequently met the case definition were included in the numerator?

Methods, laboratory investigations subtitle:

Which organisms were tested for in bacteriological/virological analysis – both on stool and environmental samples?

Results – aetiology:

The presumption that the outbreak was caused by norovirus seems reasonable – but what were the results of the virological analysis? In the methods it was suggested that investigations were performed. PCR (and to a lesser degree ELISA) testing is sensitive. If these tests were negative on a large number of samples, the authors must justify why they still believed the outbreak to be caused by norovirus.

Perhaps you should combine this section with the ‘Laboratory results’. In that section it states that there was no virological tests performed – this contradicts the methods section. Also – were the 6 food handlers who were sampled symptomatic (i.e. cases)? Were any food handlers reported to be symptomatic just prior to the outbreak?

Discussion:

Pathogenesis and mode of transmission:

Kaplan’s criteria were proposed in an era when microbiological confirmation of outbreaks was extremely difficult due to the insensitivity of electron microscopy. Modern PCRs and ELISAs have dramatically improved this. Why have the authors decided to use these criteria rather than get confirmatory diagnosis. This seems of particular importance since we are told in the ‘epilogue’ that
this outbreak was followed by an outbreak of salmonella in the same facility.

Second para: Should refer here to recent reports that norovirus gastroenteritis may not be so mild in certain groups in the community (Rockx et al, CID 2002) or in hospitalised patients (Lopman et al, CID 2004).

Intervention, 4th paragraph:
The authors state that “the strict implementation of the guidelines allowed control of this outbreak”. It could be argued that there is no evidence for this. The attack rate was very high (> 40%). It seems equally likely that the outbreak ran its natural course – eventually running out of susceptibles – at least in the cohort that was studied. At the end of the paragraph you state that the intervention was successful in controlling the outbreak. Consider changing to a statement like the one at the end of the conclusion that the control measures were successfully implemented – rather than were successful at controlling spread.

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

Title page
None of the authors in the list are associated with institute #7 – “Rikshospitalet, Norge”

Background:
I would rephrase to say: the symptoms (D&V) were reported to be of short duration…..

AND

….a new group of patients were due to arrive…..

Methods:
Consider changing the sub-title to ‘Recruitment of the cohort’ rather then case finding – as you were not just searching for cases.

Under subtitle ‘Exposure’ you justify why you restricted the food and environmental exposure to 2 days. That is perfectly reasonable – but may want to raise this as a potential limitation in the discussion.

Under subtitle ‘analysis’ I would rephrase the first sentence:
Day by day, we compared food-specific attack rates for each item…..

Results:
Would clarify by adding: (response rate = 78%)

Disease characteristics:
Only 2 cases fell ill subsequent to their roommate – how detailed was the date/time of onset data? The incubation time of norovirus is often less then 24 hours – so if date of onset information is only collected daily, chains of transmission can be overlooked.

Cohort study:
I think that you mean ‘multivariable analysis’ (where multiple explanatory variables are considered) rather then ‘multivariate analysis’ (where multiple outcomes are modelled). Check this throughout.
Discussion:
Pathogenesis and mode of transmission: Second para:
Should refer here to recent reports that norovirus gastroenteritis may not be so mild in certain
groups in the community (Rockx et al, CID 2002) or in hospitalised patients (Lopman et al, 2004).

Vehicle of contamination;
Correct language: ‘The jam was commercial made by cooking.’ Not clear what this means.

Table 1:
In heading change “Symptoms” to “Symptoms/Attribute”
“GP visits” – do you mean “Visited PG”
“Policlinic visits in hospital” - what does that mean?

Table 2:
The figures in this table suggest that you have hourly information on onset and recovery – is that the case?

Table 3:
Change ‘variate’ to ‘variable’.
Can you explicitly state in the table what you are controlling for in the multivariable model?

Table 4.
Consider presenting a chi-squared test for trend of strawberry jam dose response.

Discretionary Revisions (which the author can choose to ignore)
Consider publishing the questionnaire used in this study – I believe the BioMed Central has a facility for this…

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: Needs some language corrections before being published

Statistical review: No

Declaration of competing interests:
One of the institutes associated with this publication - Norwegian Institute of Public Health - paid my expenses to give a seminar at their centre in 2004.