

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Serological investigation to identify risk factors for post-flood infectious diseases: A longitudinal survey among people displaced by Typhoon Morakot in Taiwan
AUTHORS	Chen, Yen-Hsu; Lin, Chun-Yu; Chen, Tun-Chieh; Dai, Chia-Yen; Yu, Ming-Lung; Lu, Po-Liang; Yen, Jeng-Hsien

VERSION 1 - REVIEW

REVIEWER	Professor Viroj Wiwanitkit hainan medical university, china
REVIEW RETURNED	12-Dec-2014

GENERAL COMMENTS	the sample size is small. the control of confounding factor is not done. the quality control of the laboratory test is also not mentioned. not cover all infectious disease in post crisis situation
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REVIEWER	CLAIRE ITALIANO ROYAL PERTH HOSPITAL AUSTRALIA
REVIEW RETURNED	08-Jan-2015

GENERAL COMMENTS	<p>My main methodological concern is with the second round sampling - it is not clear how many blood samples were taken (ie. were all those persons who were seronegative actually captured and repeat blood tests performed). As it is, there is no denominator.</p> <p>The median age of the 2 groups also needs to be documented. The suggestion is that the community group was much older (in consideration of the >65y.o. breakdown). This is also alluded to in the discussion but it is a potentially important bias. Whether these 2 group were also from different originating regions of Taiwan is also of potential importance.</p> <p>The reason for not repeating HSV, VDRL should also be documented.</p> <p>In terms of format, there is significant repetition and some points are in the incorrect section. For example, there is significant repetition in the introduction that does not add to the quality of the article. The information regarding the Typhoon should be in the intro/background section and not the methods. There are results that appear in the discussion which are not in results - these should either be added to results or this removed from the discussion. Table 2 has many results that do not add to the argument.</p> <p>All acronyms need to be initially defined eg. GPT.</p> <p>Overall, the manuscript requires some significant refocusing and</p>
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	clarification of points to enable consideration of the merits the scientific points that are raised.
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name viroj wiwanitkit

Institution and Country hainan medical university, china

Please state any competing interests or state 'None declared': none

the sample size is small.

Response: We agree with the reviewer that the sample size for this prospective study was relatively small, and have listed this as a limitation of this study. It is important to validate our current findings with a larger sample size.

the control of confounding factor is not done.

Response: We thank the reviewer for this comment. We have now performed a multivariate analysis on three factors which were significantly associated with seroconversion in Table 4. We have included these data in our revised Table 5, our Results as well as Abstract sections.

the quality control of the laboratory test is also not mentioned.

Response: We have now clarified that the amoebiasis (IHA), Hepatitis A virus (HAV), HSV-1, and HSV-2 tests were performed by the College of American Pathologists (CAP) Accreditation Programs Laboratory. All other tests were performed in our own laboratory, which is a Biosafety level-2 (BSL-2) certified lab.

not cover all infectious disease in post crisis situation

Response: We thank the reviewer for this comment. Although we recognize the importance of covering all infectious diseases in post-crisis situations, due to budgetary constraints, we could only investigate diseases based on local interests in this study. We have included this as a limitation of this study.

Reviewer: 2

Reviewer Name CLAIRE ITALIANO

Institution and Country ROYAL PERTH HOSPITAL
AUSTRALIA

Please state any competing interests or state 'None declared': NONE DECLARED

My main methodological concern is with the second round sampling - it is not clear how many blood samples were taken (ie. were all those persons who were seronegative actually captured and repeat blood tests performed). As it is, there is no denominator.

Response: We have now clarified that second round sampling and testing was performed on all 288 cases. We have presented the second round with seroconversion data in our revised Table 3.

Measles seroconversion was evaluated in 27 negative cases (261 cases were positive in the 1st round). Similarly, mumps and rubella seroconversion was evaluated in 74 and 58 negative cases, respectively. Second round testing was performed for HSV-1 and HSV-2 on 43 and 187 cases, respectively. Those numbers now serve as denominator.

The median age of the 2 groups also needs to be documented. The suggestion is that the community group was much older (in consideration of the >65y.o. breakdown).

Response: In accordance with reviewer's requests, we have added the median age of the 2 groups with proper statistical analysis in results section. The community group had a higher percentage of

cases in the >65 year old category. However, our second round comparisons were designed to measure the parameters within the same person in each corresponding group..

This is also alluded to in the discussion but it is a potentially important bias. Whether these 2 groupd were also from different originating regions of Taiwan is also of potential importance

Response: We have now clarified in the Methods section that all 288 cases originated from the same Kaohsiung County, Taiwan.

The reason for not repeating HSV, VDRL should also be documented.

Response: We have now included the second round test data for HSV-1, HSV-2, and VDRL for syphilis in our revised Table 3. We have also revised our Results section accordingly.

In terms of format, there is significant repetition and some points are in the incorrect section. For example, there is significant repetition in the introduction that does not add to the quality of the article. The information regarding the Typhoon should be in the intro/ background section and not the methods. There are results that appear in the discussion which are not in results - these should either be added to results or this removed from the discussion. Table 2 has many results that do not add to the argument.

Response: The entire manuscript has been extensively revised to improve the flow and readability.

All acronyms need to be initially defined eg. GPT.

Response: All acronyms have been expanded at first use.

Overall, the manuscript requires some significant refocusing and clarification of points to enable consideration of the merits the scientific points that are raised.

Response: The entire manuscript has been extensively revised to make it more focused and succinct.

VERSION 2 – REVIEW

REVIEWER	Professor Viroj Wiwanitkit Visiting Professor, Hainan Medical University, China; visiting professor, Faculty of Medicine, University of Nis, Serbia; adjunct professor, Joseph Ayobabalola University, Nigeria; honorary professor, Dr DY Patil Medical University, India; professor, senior expert, Surin Rajabhat University, Thailand
REVIEW RETURNED	26-Mar-2015

GENERAL COMMENTS	<p>The introduction is still very lengthy and there are many results in the body of the manuscript and in tables (eg. hyperuricemia, glucose) that are not relevant to the study question regarding serological conversion - all of which makes it more difficult to follow . In the abstract and discussion there is emphasis on the need for vaccination is - this may not be unreasonable considering the rates of seroconversion for rubella but the progression from the results presented to this conclusion should be more clearly highlighted.</p> <p>It was a comprehensive study but the manuscript should be tightened to convey the main findings relevant to the study</p>
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	objectives rather than being inclusive of all the results and history of floods.
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REVIEWER	CLAIRE ITALIANO ROYAL PERTH HOSPITAL AUSTRALIA
REVIEW RETURNED	26-Mar-2015

GENERAL COMMENTS	<p>The introduction is still very lengthy and there are many results in the body of the manuscript and in tables (eg. hyperuricemia, glucose) that are not relevant to the study question regarding serological conversion - all of which makes it more difficult to follow . In the abstract and discussion there is emphasis on the need for vaccination is - this may not be unreasonable considering the rates of seroconversion for rubella but the progression from the results presented to this conclusion should be more clearly highlighted.</p> <p>It was a comprehensive study but the manuscript should be tightened to convey the main findings relevant to the study objectives rather than being inclusive of all the results and history of floods.</p>
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VERSION 2 – AUTHOR RESPONSE

Reviewer Name Professor Viroj Wiwanitkit
 Institution and Country Visiting Professor, Hainan Medical University, China; visiting professor, Faculty of Medicine, University of Nis, Serbia; adjunct professor, Joseph Ayobabalola University, Nigeria; honorary professor, Dr DY Patil Medical University, India; professor, senior expert, Surin Rajabhat University, Thailand
 Please state any competing interests or state 'None declared': None

Please leave your comments for the authors below
 The content of the work is ok
 Response: We thank the reviewer and believe that our present findings will be useful for management of populations displaced due to natural disasters.

Reviewer Name CLAIRE ITALIANO
 Institution and Country ROYAL PERTH HOSPITAL
 AUSTRALIA
 Please state any competing interests or state 'None declared': NONE DECLARED

Please leave your comments for the authors below
 The introduction is still very lengthy and there are many results in the body of the manuscript and in tables (eg. hyperuricemia, glucose) that are not relevant to the study question regarding serological conversion - all of which makes it more difficult to follow .
 Response: We have revised the Introduction section to make it more focused. We have also revised Tables 2 and 4 in order to remove data which are not relevant to the manuscript including anti-HAV IgG levels, fasting plasma glucose levels, HbA1C levels and uric acid levels. The Results section has been revised accordingly.

In the abstract and discussion there is emphasis on the need for vaccination is - this may not be unreasonable considering the rates of seroconversion for rubella but the progression from the results presented to this conclusion should be more clearly highlighted.
 Response: We have now emphasized in the Discussion section that our data showed evidence of

vaccine-preventable diseases such as measles, mumps, and especially rubella after the disaster, regardless of the type of accommodation. Seroconversion among displaced persons suggested that there is a possibility of outbreaks of infectious diseases such as rubella in crowded shelters after natural disasters. This can be effectively prevented by extending vaccination programs to populations who have a higher risk of post-disaster displacement and who are without antibody protection.

It was a comprehensive study but the manuscript should be tightened to convey the main findings relevant to the study objectives rather than being inclusive of all the results and history of floods.

Response: We have made extensive revisions to the entire manuscript to make it more focused and succinct.