Author's response to reviews

Title: Effects of pediatric first aid training on preschool teachers: A longitudinal cohort study in China

Authors:

Feng Li (lifeng0228@163.com)
Xiaoyang Sheng (mapleleaf0229@hotmail.com)
Jinsong Zhang (zhangjsk@gmail.com)
Fan Jiang (fanijiang@shsmu.edu.cn)
Xiaoming Shen (xiaomingshen163@163.com)

Version: 3 Date: 7 May 2014

Author's response to reviews: see over
Dear editors:

Thank you for your efforts in reviewing our manuscript entitled **Effects of pediatric first aid training on preschool teachers: a longitudinal cohort study in China** (Manuscript No: 1208510047118014). We truly appreciate the reviewers' in-depth criticism and constructive comments. We have tried our best to rewrite the manuscript and received editing assistance. We are grateful for these valuable comments and feel that after incorporating the reviewers’ advice, the revised manuscript has been significantly strengthened. A detailed point-by-point response to reviewers’ comments is attached.

Thank you for your time and effort. We are looking forward to hearing your decision.

Sincerely yours,

Feng Li, Xiaoyang Sheng, Jinsong Zhang, Fan Jiang, Xiaoming Shen

---

**Replies to Reviewers**

We are very grateful to the two reviewers' comments for the manuscript. According with their advice, we amended the relevant section in the manuscript. Some of their questions were answered (in blue) below. We will answer the questions one by one.

**Answers to Reviewer #1:**

Major Compulsory Revisions

1) Results section-knowledge-2nd paragraph: “At stage 1, in the pretest period before training, 1067 people responded with a mean accuracy of 21.0 correct answers out of 37 questions, whereas in the post-test period (stage 2), the mean scores ....”

---Were the 1067 subjects fully followed up in later time points?
---If not, how many of them dropped out? Is there any difference between those who still remain in later stages and those dropping out?
---Selection bias could arise if subjects remaining in subsequent tests and the ones dropping out are heterogeneous. This could, in a sense, lead to an invalid conclusion.

**Answer:** In the post-test period (stage 2), the 1067 subjects were fully followed up.

At stages 3, 4 and 5, three hundred subjects were independently drawn from the same 1,067 sampling frame using the statistical software package SPSS to participate in the examination 6 months, 9 months and 4 years after their first refresher in some kindergartens. Some teachers dropped out in later time points. We telephoned them or their kindergartens, but they did not respond to these efforts. Finally, at stages 3, two hundred and eight selected from the 1,067 participants (19.5%) were retested 6 months after the training; at stages 4, two hundred and seventy-eight selected from the 1,067 subjects (26.1%) participated in the examination 9 months after the training;
and at stages 5, two hundred and seventy-four selected from the same 1,067 subjects (25.6%) come for retesting 4 years after the training. At stage 3, 4 and 5, most of the selected teachers (more than two thirds of selected three hundred teachers in each stage) participated in the examination at each stage. There was no any significant difference in demographic characteristics between those who come for the examination and those dropping out at each stage. Selection was random and selection bias may be small. We have modified this. Thanks!

2) Subjects and Methods section-later 1st paragraph: “At stages 1 and 2, 1067 participants completed the survey. At stages 3, 4 and 5, subjects were randomized using the statistical software package SPSS … and 274 (25.6%) were available for retesting at 4 years.”

--One key point here is that are the three groups of participants homogeneous in outcomes of interest (i.e., knowledge, score) as well as demographics at baseline pre-test? It could be good to describe this a bit.

\textbf{Answer:} There was no statistically significant difference in demographic characteristic and pretest score when comparing among the five stages. We have modified this, Thanks!

3) Results section-emotions: When comparing stage 1, 2 and any other subsequent stages, it should be bearing in mind the samples at each stage vary. For example, subjects who participated in stage 3-5 are subgroups of the total population (1067) in stage 1 and 2. It might be important to make sure subgroups are not heterogeneous compared with baseline.

\textbf{Answer:} The baseline score of emotions at stage 1 was not statistically different from that of subgroups (stage 3, 4 and 5). The baseline scores of emotions were not different among in subgroups too. We have modified this. Thanks!

\textbf{Minor Essential Revisions}

1) Abstract-Background: “The purpose of this study was to assess paediatric first aid knowledge retention and emotions among teachers after training.”

--It would be useful to put it like “The purpose of this study was to assess the association or the effects of ….”

\textbf{Answer:} We have modified this according to the kind advice. Thanks!

2) Abstract-Results: The first sentence

--I am afraid it is not clear-cut. Does it mean 32.2 correct answers of 37 questions?

\textbf{Answer:} We have modified this according to the kind advice. Thanks!

3) Subjects and Methods section-later 1st paragraph: “Two hundred eight (19%) of the 1,067 participants were retested 6 months after the training…”

--It would be import to check how many participants participating retest 6 months after.

\textbf{Answer:} We have modified this according to the kind advice. Thanks!

4) Subjects and Methods section-2nd paragraph: “A high score is equivalent to a high degree of positive (low degree of negative) emotions.”

--I am afraid this sentence is not clear not. It might be good to illustrate it by giving
Answer: For example, if I came alone to a place where first-aid action was required, then I would feel:

Anxious 0 1 2 3 4 5 6 7 8 9 10 Calm

If I selected “0”, it means that I was anxious in the first-aid situations (negative emotion); if I selected “10”, it means that I was calm in the first-aid situations (positive emotion). Thanks!

5) Data Analysis Section: “Between-groups comparisons were made using the Chi square (#2) test. A comparison of the scores based on groups was performed with an analysis of variance or Student’s t test as needed.”

--Which variables are you comparing on?
--It might be useful to mention which kinds of variables they are. Are they continuous variables or categorical variables or else?

Answer: We have modified this according to the kind advice. Thanks!

6) Results Section-Knowledge-first paragraph: “There was no statistically significant difference in demographic characteristics among the groups.”

--Which groups do you mean by ‘the groups’?

Answer: ‘the groups’ means the subjects in the five stages. We have modified this. Thanks!

Discretionary Revisions

1) Limitations: “First, within the quasi-experimental design of our study, the influenced factors of knowledge retention between post-testing and re-testing were outside the control of the study.”

--This may not a big issue if the follow-up intervals are relatively shorter, like 6 months or 9 months. However, it might need to be cautious if it is a longer term of follow-up as certain time-variant confounders may emerge even if we follow the same cohort of people.

Answer: This is indeed our limitation. We will be cautious in a longer term of follow-up in our future work. Thanks!

Answers to Reviewer #2:

We thank the reviewer for the thorough review and helpful advice. We have carefully considered the reviewer’s comments and advice and have revised our manuscript accordingly.

Background:

1) The introduction provides a concise overview of the main literature relating to the importance of childhood injuries, the role of schools in mitigating this problem, and the effectiveness of first aid training programs in this setting. The idea of emotional preparedness, explored in the study, is not developed. While the literature in this area is likely scant, the idea should be introduced and developed here.

Answer: We have added the information in introduction. Thanks!

Method:
2) Clarify if the sample for each stage (3-5) were independently drawn from the same 1,067 sampling frame, or if participation in one follow-up precluded selection for another.

**Answer:** We have modified this according to the kind advice. Thanks!

3) Clarify the targeted sample size for each phase (3-5)... the phrasing ‘were available...’ implies these numbers represent the respondents from some larger frame.

**Answer:** We have modified this according to the kind advice. Thanks!

4) The term quasi-interventional is used to describe the design. This meaning is not defined/explained. {To my use of the terminology, it would be a stretch to describe this design as a quasi-experimental time series as only one pre-intervention measure was taken; alternately no untrained group was concurrently measured as a comparison. I have a similar concern with the use of ‘quasi-experimental’ in the limitations section.}

**Answer:** Yes, we chose the improper term for description of our research. We have deleted the term ‘quasi-interventional’ according to the kind advice. Thanks!

5) Results: The results are systematically presented and utilize appropriate statistical analyses for the research questions being addressed. Some discussion content amplifying or explaining the results is misplaced in this section (e.g., P7, line 2-5). Too much detail is replicated in the text that is presented in the tables/figures. The ideas and data could be better organized and presented to more concisely convey the expected pattern of a marked increase following training to modest decay over time stabilizing at a level significantly higher than the baseline.

**Answer:** We have modified this according to the kind advice. Thanks!

Tables & Figures [Discretionary Revision]:

6) Table 1. Given the research question’s emphasis on examining decay trends over time, I suggest adding the phrase Comparison of mean scores “within each stage...” to the title to make explicit the comparisons being made.

**Answer:** We have modified this according to the kind advice. Thanks!

7) Figure 1. Revise to include sampling frame information requested under methods comments.

**Answer:** The maximum score is 37. We have modified this according to the kind advice. Thanks!

Discussion & Conclusion:

8) The discussion (and to some extent the results) related to emotions, however, does not address the dip below baseline at 9 month (actually 6 month) and its recovery to a more expected level at subsequent assessments. While the literature is lacking on this aspect, this dimension is one of your novel contributions and deserves comment regarding the importance of further exploring this dynamic and the relationship between knowledge, emotion, and willingness to act.

**Answer:** The score of emotions at 6 month after training was not statistically different...
from the score of baseline. Its recovery to a more expected level at subsequent assessments (9 month and 4 years), this may be because that the teachers had witnessed some childhood injuries in the long term period and had experienced in dealing with the injuries, demonstrating a positive attitude toward emergencies. We have modified this according to the kind advice. Thanks!