Reviewer's report

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

Version: 2  Date: 28 March 2014

Reviewer: NAN ZHANG

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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.

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.

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.

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 ....”

2. Abstract-Results: The first sentence

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

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 examples.

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?

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’?

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.

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

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests.