Reviewer’s report

Title: Trends in solids/liquids poisoning suicide rates in Taiwan: a test of the substitution hypothesis

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Reviewer: Jing Wu

Reviewer’s report:

Good points:
1. This study’s vision that focuses on pesticides is of importance not only for Asian suicide research and also for scientists abroad to create deeper understanding of self-poisoning pattern in Asian countries.
2. The value and creativity of this study is to test substitution hypothesis under restriction of access to pesticides.

Major compulsory revisions:

Abstract
About background, authors are suggested to stress on the aim of this study is in Taiwan.

Background
In the 3rd paragraph, authors mentioned the solids/liquids poisoning suicide rate decreased during the 1980s in Taiwan. The data were relatively old; could the authors offer newer data on prevalence in solids/liquids poisoning suicide in Taiwan?

Methods
Data sources
What reasons let authors not utilize the latest mortality data files but only choose the years from 1971 to 1993? As I know, in Taiwan, the ICD-9 was used for the years 1981-2008 and the dual-coding approach involving both ICD-9 and ICD-10 were used since 2001. Authors are suggested to add the data from 1993 until at present into the study and do long-term trend analysis.

Analysis
1. Authors calculated age-adjusted suicide rates using the world population as a standard. If authors could use the Asian population as a standard to calculate age-adjusted suicide rates in Taiwan, the data would be more precise. But if the data on Asian population as a standard is not available, the choice of the world population can be kept in the study.
2. Authors used age-adjusted suicide rates to analyze the trends by methods in Taiwan from 1971-1993 year (figure 1), it is understandable. But, if authors divided different age groups (15-24, 25-44, 45-64, 65+) and did analysis of suicide rates by age (table 2 and table 3), there was no need to adjust age. Here, using Taiwan’s original suicide rates is recommended.

Discussion

From paragraph 5, authors discovered why there was no method substitution in Taiwan with solids/liquids poisoning suicide rates marked decrease. From authors’ perspective, even though accessibility and acceptability of other methods were very favorable in Taiwan, there was still lack of popularity for other methods substitution. However, it was the phenomenon before 1993 year. Obviously, in the figure 1, the trends of hanging and other methods slightly rose up after 1990 year in both males and females. Is it possible to conclude that probably after 1990 other methods got started to be more and more popular? Moreover, one decade ago, some studies in Asian regions already focused on charcoal-burning suicide which has increasingly been a serious public health problem, especially in Taiwan and Hong Kong. Under this circumstance, it is crucial to go further steps to look at up-to-date mortality data and analyze suicide method trends from 1993 until now.

Minor essential revisions:

Figure 1: spelling mistake: ‘female’.

In table 2, the explanations of superscripts (a, b, c) under the table are not uniform with the words (poisoning, hanging and others) in the table.

Discussion part: in paragraph 4, the font is different. Please uniform the font for the text.

Discretionary revisions:

Table 3, the word ‘Y15+’ is a typing mistake or means ‘total’?

Table 2 and table 3: the orders of three categories (poisoning, hanging and others) are not the same. It is better to uniform them in both tables.

Table 1: Please uniform the description of terms “men, women”, “males, females” and “the youths, the young” in one table. Probably authors could be in compliance with WHO terminology, namely, keep ‘males, females’.

Level of interest: An article of importance in its field

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