Reviewer's report

Title: Validation and findings of a food environment survey in three urban environments of Kunming, China

Version: 4 Date: 2 December 2013

Reviewer: Zhihong Wang

Reviewer's report:

Dear editors,

Thank you very much for giving me the opportunity to review your interesting paper.

The entire paper could benefit from some improved clarity/conciseness. Findings from this article are important to further investigate the association between high-level built environment (such as community-level factors) and individual health-related outcome adjusting for potential individual-level risk factors.

In general, the research question on the development of a food environment survey in Kunming is well defined. The methods are appropriate. It would be better if the methods are described in much more detail. The data are sound. The authors provide comprehensive acknowledgment on the research basis.

The writing is generally acceptable, although there were some minor typographical and grammatical errors, as well as sentences where the phrasing could have been better. Although these errors were small, the readability of the paper will be improved once they are attended to.

Here I list the Minor Essential Revisions for the authors’ attention.

Title:
# Title change: Development and evaluation of a food environment survey instrument in Kunming, China
The construct validation appears not strong enough given cross-sectional design of this study, small sample size, and convenient adolescent sample lacking representativeness.

Methods:
Survey instrument development
# Change “development” to “development”
# Please provide clear definitions of each restaurant and food stores type, which is relevant to better-understanding of the results and findings.

Neighborhood Selection, last sentence in the paragraph
In each neighborhood, the food environment assessments were carried out on a
1-km stretch of street with visibly high food establishment density.

How was the 1-km stretch of street selected? How was visibly high food establishment density assessed?

Reliability

The student researchers also measured the geographic location of each food establishment by using a GPS unit (Garmin 62S).

Does this study use the geographic location data collected from a GPS unit? If then, how are these data used? Please give a brief description.

Validity, the first paragraph

# Higher weight status: changed into “higher prevalence of adolescent overweight and obesity”

Validity#second paragraph

# Weight: changed into “weight”?

Data analysis

# What statistical test was used for comparisons between restaurant or food stores types dichotomous (yes/no) variables? Please specify the statistical tests used in Table 4-7.

# What is the statistical significance level used?

Results:

Characteristics of foods available

Western fast food restaurants were more likely to offer deep-fried foods than Chinese sit-down, take-out or even Chinese fast food restaurants

Are both sit-down and take-out only Chinese style? There list just sit-down or take-out in Table 4. Please check them.

In table 6, type of food served

Deep-fried is a kind of cooking method, which should not be regarded as the same concept as food types.

Validity

Although the differences were small and marginally statistically significant (p=0.077 to 0.131) ……

# What statistical method was used here? What statistical significance level was used here?

# The use and comparison of the mean BMIs may be inappropriate due to potentially different percentage distributions of age and gender. The analyses do
Discussion:

# The last sentence: delete “from”
# The word “alarming” should be used with caution. The prevalence of combined overweight in adolescent (15.1% for WGOC) was not very high. The sample size was small and lack of representativeness.
# Phrasing awkward: “With larger numbers of overweight than underweight” is inappropriate. Both statuses are incomparable given that both of them are not healthy.

Limitations of the present study, Second paragraph

# The discussion of the limitation should include restriction to 1 km-stretch of street in only three neighborhoods. The conclusion that findings are representative of China should be drawn with caution. Further studies in other cities are needed to assess the generalizability of the instrument and findings.

Forth paragraph

While obesity is complex and affected by many factors, even when unadjusted for confounding factors, differences in the food environment tended to be associated with observed differences in the rates of adolescent overweight and obese between neighborhoods.
# Even when unadjusted for confounding factors

It is not proper to phrase like that. Actually unadjusting for confounding factors is one major limitation. The results are not reliable. The observed association may be due to the potential confounding rather than the food environment. The association between food environment and obesity rates warrant further prospective studies considering a wide range of confounding factors.

Conclusions:

This sentence: Moreover, this is one of the few studies that presents rates of adolescent obesity in a middle-sized city in western China.
# 575 adolescents: the sample size is very small and is not randomly sampled and lack of representativeness. It may not be able to present rates of adolescent obesity in a middle-size city in western China. Moreover, the prevalence of adolescent obesity was not the focus of this study.

Table 4: no footnote of “#”, please add this footnote below table 4.
The readability of the table 4 may be improved if the restaurant types are sorted by percentage.

Table 11: Please check the numbers: the total percentage did not equal 100% and the percentage of the combined overweight did not equal those of both overweight and obese defined by WGOC or IOTF.

Table 12:
# Age- and gender-adjusted percentage may be more appropriate than crude percentage given the possibly different age and gender distribution.

# Please add statistical test method to Table 12.

Figure 2: please change the direction of numbers of Y-axis

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

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests