Reviewer's report

Title: Characterization of Street Food consumption in Palermo: possible effects on health

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Reviewer: Sanae Inagami

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Comments to Authors

General comments

This is generally a well-written manuscript addressing one of the multiple gaps that exist in the food environment/obesity literature today. Studies published to date linking the food environment to health outcomes/obesity are problematic because investigators in this field have not standardized how one measures the food environment. There have been many studies on fast food restaurants; in these studies, investigators have defined exposure to fast food restaurants as exposure to fast food franchises. However, the “independent” street vendor, a ubiquitous presence in major metropolitan cities throughout the world, has generally been excluded from these studies. This is ironic since the street vendor food is generally recognized as fast food as people generally cannot sit and eat where such food is sold. The manuscript submitted explores associations between health outcomes and the presence of street vendors that addresses a gap in the field.

The study suffers from 3 major weaknesses: selection bias, the lack of potential confounders that the authors considered, and lack of generalizability. The study recruited participants from 2 locations, street vendor sites and restaurants. Participants frequenting these two establishments may differ intrinsically in many other characteristics that may contribute to the findings seen. Many of these characteristics are socioeconomic in nature. If selection bias was thought to be a weakness in the sampling strategy, identifying how to counter or control for selection bias is integral. Those frequenting restaurants may be more wealthy and more educated than those who obtain food at street vendor sites, which may explain the differences seen in outcomes that have nothing to do with diet. In such a situation, attention to these factors must be undertaken rigorously. In this situation, detailed information re: SES were not obtained. Thus, conclusions regarding associations between exposure to Street Food and any outcome must be strongly tempered. Lastly, because this was a convenience sample, the findings may not be generalizable to the larger population.

Major revisions:

1. The authors have identified a significant gap in the literature, and this is an area that should be explored.
2. Selection bias is the major weakness in this manuscript and threatens the validity of the conclusions re: any association between BMI/any outcomes and predictors have to be strongly tempered (or eliminated). This is not a minor weakness that can be addressed in a single sentence in the Discussion when discussing Limitations but must be re-iterated throughout the manuscript.

3. The study could be strengthened in two ways, by controlling for SES which most likely is playing a role in the differences seen in the SF and restaurant groups or by presenting evidence re: the lack of socioeconomic differences seen in obesity etc. today. SES information most likely was not collected, except for information such as employment. It may be interesting to examine this population stratified by managerial status...to look at the managers and professionals/students between the two groups if the authors want to somehow control for SES. A strictly descriptive study of a convenience sample of those who consume street foods and how much street food they consume may be very interesting unto itself, and whether differences in street food score WITHIN the SF sample is associated with BMI and may eliminate the issue of sampling bias, though generalizability will still be an issue.

4. Generalizability is limited because of the sampling strategy (convenience sample). The authors admit that the population that they obtained information from do not resemble characteristics of the general population. The population they sampled from is in fact healthier! They speculate as to what the reasons for this may be in the Discussion (younger and healthier people have been documented to have poorer eating habits, should cite) but there should be some emphasis on why the study is important unto itself despite the lack of generalizability.

Minor revisions:

1. Citations re: self-report/recall bias re: weight, medications and why it may not be an issue are important to list.

2. Because this reviewer is from the US, it is unclear if there is less bias reporting self-rated health by diagnoses in Italy where there is a national health care system. US studies are problematic in that those who receive health care may generally have more identified diagnoses than those who do not receive health care, due to problems related to access. If this publication will be received by a US audience, this may be important to address in a sentence or two.

3. I found the description of the types of Italian Street Vendor Food interesting (Table 1), and frankly, these descriptions may be interesting to place somewhere in the Discussion for readers who are not familiar with Italian Street Food. Though, one cannot describe the specific caloric count to any one of these Street Vendor Food, general caloric estimates from a reliable source may be quite informative in Results.

4. I was unclear as to what the Street Score was. What does a beta coefficient of
0.064 mean in real terms? With every 1x increase in eating SF/month, you (weighing 5 feet 5 inches) weigh 0.1 kilograms more?? Or a SF consumption score difference between 6.6 and 1.8? They eat 6.6x/month on average and the restaurant people eat 1.8x/month?? It is very important to be able to interpret the data easily in real terms.

Discretionary Revisions

1. Consistency with the use of subjects vs. participants throughout the manuscript.

2. This reviewer does not understand the reasons behind a detailed preference list of SF by separate groups, except for the beverage of preference. I would think the more important listing would be SF consumption…if the authors were to list anything at all.

3. It is unclear when you have variables coded as 1, 2 which one is the reference category.

4. Discussion needs to be tightened. Some sentences were not integrated well.

5. There are some problems with formatting; with some paragraphs not consistently indented when change of paragraph was to occur.

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

**Quality of written English:** Needs some language corrections before being published

**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’