Author's response to reviews

Title: Fifty Years of Fat: News Coverage of Trends that Predate Obesity Rates

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Shane A Norris
Associate Editor
BMC Public Health

Dear Professor Norris,

Thank you for suggesting changes to our Research Article now titled, “Fifty Years of Fat: News Coverage of Trends that Predate Obesity Prevalence.” We appreciate your helpful comments and have addressed them in this resubmission.

**Reviewer 1 (Lisa Micklesfield)**

Minor compulsory revisions

*Abstract:*

- Pg 2, line 39: one of the ‘salty’ should be replaced by ‘sweet’
  - We have replaced this as suggested. Thank you for catching this error.
- Pg 2, line 46: include ‘(
  - We have included this as suggested. Thank you for catching this error.
- I think it should be included that the models for the “obesity followed mentions” are stronger than the “obesity preceded mentions” models
  - We have included this as suggested. Thank you for this clarifying suggestion.

*Background:*

- Pg 4, line 67: replace ‘foreshadow’ with ‘precede’
  - We have replaced this as suggested. Thank you for the suggestion.

**Reviewer 2 (Lennert Veerman)**

This reviewer had no further comments.

In addition to addressing these comments and inspired by reviewer suggestions, we made minor edits to the abstract for further clarity.

*Previous Background statement:*

Obesity prevalence has risen in fifty years. The health literature generally expects media mentions of health risks to follow health risk trends. However, since food consumption trends precede obesity prevalence trends, this research investigates whether newspaper mentions of food predate obesity prevalence.
New Background statement:
Obesity prevalence has risen in fifty years. While people generally expect media mentions of health risks like obesity prevalence to follow health risk trends, food consumption trends may precede obesity prevalence trends. Therefore, this research investigates whether media mentions of food predate obesity prevalence.

Previous Methods statement:
Fifty years of non-advertising articles in the New York Times are coded for the mention of unhealthy (5 salty and 5 salty snacks) and healthy (5 fruits and 5 vegetables) food items by year and then associated with annual obesity prevalence. Time-series generalized linear models and seemingly unrelated regression analyses are used to test whether food-related mentions predate or postdate obesity prevalence. Similar analyses are presented using the London Times.

New Methods statement:
Fifty years of non-advertising articles in the New York Times (and 17 years for the London Times) are coded for the mention of less healthy (5 salty and 5 sweet snacks) and healthy (5 fruits and 5 vegetables) food items by year and then associated with annual obesity prevalence in subsequent years. Time-series generalized linear models test whether food-related mentions predate or postdate obesity prevalence in each country.

Previous Results statement:
US obesity prevalence is positively associated with New York Times mentions of sweet snacks ($b=55.2$, CI = 42.4 to 68.1, $p = .000$) and negatively associated with mentions of fruits ($b=-71.28$, CI -91.5 to -51.1, $p = .000$) and vegetables ($b=-13.6$, CI = -17.5 to -9.6, $p = .000$). The combined mention of vegetables, fruits, sweet snacks and salty snacks explains 94% of variation in US obesity prevalence three years later. Similar results are found for The London Times, for which there are also fewer years of obesity data.

New Results statement:
US obesity prevalence is positively associated with New York Times mentions of sweet snacks ($b=55.2$, CI = 42.4 to 68.1, $p = .000$) and negatively associated with mentions of fruits ($b=-71.28$, CI -91.5 to -51.1, $p = .000$) and vegetables ($b=-13.6$, CI = -17.5 to -9.6, $p = .000$). Similar results are found for The London Times. Importantly, the “obesity followed mentions” models are stronger than the “obesity preceded mentions” models.

Previous Conclusions statement:
It may be possible to estimate a nation's future obesity prevalence based on how frequently a national newspaper mentions sweet snacks (positively related) and vegetables (negatively related), according to patterns found in the New York Times for the United States over fifty years, and in the London Times for the United Kingdom over seventeen years. This may provide public health officials with new tools to more quickly assess obesity interventions.

New Results statement:
It may be possible to estimate a nation's future obesity prevalence (e.g., three years from now) based on how frequently national media mention sweet snacks (positively related) and vegetables
or fruits (negatively related) today. This may provide public health officials and epidemiologists with new tools to more quickly assess the effectiveness of current obesity interventions based on what is mentioned in the media today.

We have no conflicts of interest and affirm that the results of this study are not published or under consideration for publication elsewhere. Both authors have seen and approved the contents of the submitted manuscript. We look forward to the feedback of the reviewers and the editors. Many thanks for your consideration.

Sincerely,

Brian Wansink and Brennan Davis