

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Neighborhood effects on obesity: a scoping review of time-varying outcomes and exposures in longitudinal designs
AUTHORS	Letarte, Laurence; Pomerleau, Sonia; Tchernof, André; Biertho, Laurent; Waygood, E.O.D; Lebel, Alexandre

VERSION 1 – REVIEW

REVIEWER	Maaïke Koning Windesheim University of Applied Sciences, the Netherlands
REVIEW RETURNED	04-Nov-2019

GENERAL COMMENTS	Very clearly written, and a concise presentation of the results. I have no comments except that the referencing seems to have gone wrong in some places on page 8. Also it would be good to mention the fact that the populations were not very diverse as a weakness of the study.
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REVIEWER	Mark Green University of Liverpool, UK
REVIEW RETURNED	26-Nov-2019

GENERAL COMMENTS	<p>Thank you for the opportunity to review for BMJ Open and thanks to the authors for their interesting study.</p> <p>I like the purpose of the study - this is something that will be useful and is timely. It fills a gap in the literature and should help to set up debates going forward. It would be an excellent addition to your journal. I also particularly liked reading a study talking about how most of the evidence for these effects are null. This is not talked about enough.</p> <p>The quality of the study appears good throughout (although I will admit that my expertise does not lie in undertaking literature reviews) and the study is written up clearly. It was indeed a pleasure to read through a paper with few issues or mistakes. As such, my specific comments are minor and I recommend acceptance of the paper following their consideration:</p> <p>Table 1 - OP is not defined within and tables should be standalone</p> <p>“The search was performed in February 2018 for scientific papers published before 01/01/2018.” This is likely going to be almost 2 years old by time of publication - can it be updated. I am weary of the extra work it involves and don't want to be a burden (likely based on the number of new studies that will be included), but it is out of date as is. I don't think this is unreasonable (only have to search for</p>
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	<p>an almost two year period. This will help the timeliness of your paper.</p> <p>“A flowchart of the selection process is presented in Error! Reference source not found..“ (p8) needs correcting (it made me laugh, these things happen). It occurs down the page again “The selected studies were published over a relatively short time span, with the earliest publication in 2005 (Error! Reference source not found.).” (p8)</p> <p>I do not really like the random blank column in Table 2 so suggest delete to improve presentation.</p> <p>How did you decide on the typology? Was a formal approach used or did you assign them based on your own thoughts? What statistical methods were used in each? This would help to flesh out the approaches people are using. Given the purpose of the review is to identify longitudinal designs, this section would be relevant and expected.</p> <p>I am unclear over the criteria defined by Table 4. I understand that they were based on two reviews undertaken by excellent researchers, but its justification is not clear. A ‘mixed’ outcome is specified at 50%, with null as less than and two options for greater than 50%. This feels arbitrary and unfair - a mixed result of cannot surely on just be for 50% only as that is going to be unlikely (hence why only 6). For example, if you have a study with an odd number of associations, you will not be able to get specifically 50% but the results may be mixed of course. Something to reconsider.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name: Maaïke Koning

Institution and Country: Windesheim University of Applied Sciences, the Netherlands

Please state any competing interests or state ‘None declared’: none declared

Please leave your comments for the authors below

Very clearly written, and a concise presentation of the results. I have no comments except that the referencing seems to have gone wrong in some places on page 8.

[Thank you for your comments. We have adjusted the referencing on page 8.](#)

Also it would be good to mention the fact that the populations were not very diverse as a weakness of the study.

[We added a mention of the importance of having diverse populations in the section “Implications for Future Research”.](#)

Reviewer: 2

Reviewer Name: Mark Green

Institution and Country: University of Liverpool, UK

Please state any competing interests or state ‘None declared’: None declared

Please leave your comments for the authors below

Thank you for the opportunity to review for BMJ Open and thanks to the authors for their interesting study.

I like the purpose of the study - this is something that will be useful and is timely. It fills a gap in the literature and should help to set up debates going forward. It would be an excellent addition to your journal. I also particularly liked reading a study talking about how most of the evidence for these effects are null. This is not talked about enough.

The quality of the study appears good throughout (although I will admit that my expertise does not lie in undertaking literature reviews) and the study is written up clearly. It was indeed a pleasure to read through a paper with few issues or mistakes. As such, my specific comments are minor and I recommend acceptance of the paper following their consideration:

Table 1 - OP is not defined within and tables should be standalone

We added a definition for OP in Table 1. The description of the population criteria now reads as follows:

Eligible study populations were composed of adults between 18 and 65 years of age. At least two OPs (obesity proxies) and/or neighbourhood characteristics must have been measured during adulthood (18 to 65 years old); other measurements may be collected in childhood, youth or older age.

“The search was performed in February 2018 for scientific papers published before 01/01/2018.” This is likely going to be almost 2 years old by time of publication - can it be updated. I am weary of the extra work it involves and don't want to be a burden (likely based on the number of new studies that will be included), but it is out of date as is. I don't think this is unreasonable (only have to search for an almost two year period. This will help the timeliness of your paper.

We agree that the time between the last search update and the potential publication of the paper could appear long. But this reflects the wide scope of the field we are interested in. In order to pick up all longitudinal studies focusing on neighborhood and obesity, our search strategy had to be very broad and, therefore, resulted in a large number of publications identified that needed to be screened. For example, updating our search in Web of Science alone between 01/01/2018 and 01/12/2019 would lead to 1728 citations to be screened and potentially more than 20 eligible publications from which to extract data. This process would be lengthy and delay publication beyond a reasonable date, at which point the process of updating the search might need to be run again.

However, our research team has scheduled a complete update of this scoping review, in a follow-up paper for studies published between 01/01/2018 and 01/01/2021.

“A flowchart of the selection process is presented in Error! Reference source not found..” (p8) needs correcting (it made me laugh, these things happen). It occurs down the page again “The selected studies were published over a relatively short time span, with the earliest publication in 2005 (Error! Reference source not found.)” (p8)

We have adjusted the referencing on page 8.

I do not really like the random blank column in Table 2 so suggest delete to improve presentation.

We reduced the column width to a minimum but kept the blank column to distinguish study characteristics and study findings.

How did you decide on the typology? Was a formal approach used or did you assign them based on your own thoughts? What statistical methods were used in each? This would help to flesh out the approaches people are using. Given the purpose of the review is to identify longitudinal designs, this section would be relevant and expected.

Our typology made explicit whether the exposure or the outcome was time-varying or not. It was based on our own observations of the different longitudinal designs among the selected publications. We agree that the type of statistical analysis used in the reviewed research is relevant to the appreciation of each type of design. After consulting with a scientific expert in longitudinal analysis, we concluded that the limited information about statistical approaches

available in the selected papers made it impossible to perform a more thorough analysis. But with the information available, we were able to include a new paragraph (p.12, 4.3.5) in the results section describing the most common statistical approaches. We added a column in supplementary file 2 for the main statistical analysis chosen in each publication as we understood it. We also discussed the use of different statistical analysis in the three types of designs (p.17).

I am unclear over the criteria defined by Table 4. I understand that they were based on two reviews undertaken by excellent researchers, but its justification is not clear. A 'mixed' outcome is specified at 50%, with null as less than and two options for greater than 50%. This feels arbitrary and unfair - a mixed result of cannot surely on just be for 50% only as that is going to be unlikely (hence why only 6). For example, if you have a study with an odd number of associations, you will not be able to get specifically 50% but the results may be mixed of course. Something to reconsider.

This was an important point, thank you for raising it. Upon your suggestion we changed our criteria following those suggested by Ding, 2011. The mixed results category is now broader. Table 3 was modified to describe the new categories:

Table 3 Criteria used to define overall study findings based on the associations measured

Overall study findings	Statistical significance reported	Direction reported
Null	0 %-33% statistically significant associations	Inverse or expected
Mixed	34%-59% statistically significant associations	Inverse or expected
Expected	More than 60% statistically significant associations	Expected
Inverse	More than 60% statistically significant associations	Inverse

We updated all tables and results considering the new criteria (supplementary file 2). Although a few numbers and percentages were slightly modified, little changes in the results were observed and the scoping review's conclusions remain the same.

VERSION 2 – REVIEW

REVIEWER	Mark Green University of Liverpool, UK
REVIEW RETURNED	23-Jan-2020
GENERAL COMMENTS	Good job addressing things, thanks. I really like this paper, well done.