Author's response to reviews

**Title:** Influence of neighbourhood purchasing power on breastfeeding at four months of age: a Swedish population-based cohort study

**Authors:**

Gerd Almquist-Tangen (gerd.almquist-tangen@regionhalland.se)
Ulf Strömberg (Ulf.stromberg@regionhalland.se)
Anders Holmen (Anders.holmen@regionhalland.se)
Bernt Alm (Bernt.alm@regionhalland.se)
Josefine Roswall (Josefine.roswall@regionhalland.se)
Stefan Bergman (Stefan.bergman@regionhalland.se)
Jovanna Dahlgren (Jovanna.dahlgren@vgregionen.se)

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Dear Editor

BMC Public Health

We are grateful for the opportunity to revise the manuscript “Influence of neighbourhood purchasing power on breastfeeding during the infancy: a Swedish population-based cohort study”. Notice that we have changed the original title to “Influence of neighbourhood purchasing power on breastfeeding at four months of age: a Swedish population-based cohort study”.

The two referees gave several insightful comments and valuable suggestions for the revision. Below, we address the comments provided, point-by point.

Regarding the additional editorial comment that the quality of written English needs to be improved, we have dealt with this by sending the manuscript to a certified proofreader.

We hope that the manuscript in its revised version can be considered for publication in BMC Public Health

Best wishes

Gerd Almquist-Tangen
Ulf Strömberg
Anders Holmén
Bernt Alm
Josefine Roswall
Stefan Bergman
Jovanna Dahlgren
“Referee: 1 (Sandra Abreu)
Comments to the Author

1. The authors only used the data at four months of age? Is there any evidence related to this choice? Why the author did not use data at one, four, six and twelve months? The authors believe that the association between breastfeeding and neighbourhood purchasing power could be different in according to the children’s age?

Response: We are sorry for the lack of clarity, but the WHO recommends that the optimal length for exclusive breastfeeding is six months and that breastfeeding should continue into the second year of life. Studies have shown that there is a dramatic change of diet at four months of age, when many parents make changes to their infants’ food and this is often done without consulting health staff. An earlier cessation is therefore a marker of non-compliance with current recommendations.

We have changed the title to “Influence of neighbourhood purchasing power on breastfeeding at four months of age: a Swedish population-based cohort study”.

2. Did the authors investigate the reason about why mothers did not breastfeed?

Response: We have previously studied breastfeeding at one month of age (Almquist-Tangen G, Factors associated with discontinuation of breastfeeding before one month of age, 2012). In the previous study a correlation was found between low parental educations and smoking, low gestational age, low birth weight, pacifier use, breastfeeding difficulties and early breastfeeding discontinuation. This part has now been inserted in the introduction. However, in this study we wanted to focus specifically on neighbourhood purchasing power and breastfeeding at four months of age.

3. What is the age mothers range (min-max)? What is the parity of the mother who entered in this study? Type of delivery? Pre-pregnancy BMI? Weight gain during pregnancy? In my opinion, the descriptive characteristics of the sample should include these variables (if evaluate in data collection).

Response: We have added a few maternal descriptive characteristics of the study cohort. More precisely in addition to neighbourhood purchasing power, maternal age, smoking and parental education other variables may have an influence on breastfeeding. For some of the other variables suggested, we do not have data available at this stage (parity and type of delivery). We decided to focus on the most evident individual factors when analysing the impact of neighbourhood purchasing power, which we have underlined /stressed in the objective.

Minor Compulsory Revisions

Page 9:”aOR” should be defined first.
Response: We have introduced the notations cOR and aOR in the statistical method section.
“Referee: 2
Comments to the Author

Major compulsory revisions

1. The background seems too general, in a way that when you have finished the reading you don’t know what is the consolidated knowledge about the relationship between breastfeeding and neighbourhood, and where should be inserted the novelties that is supposed this paper might provide.

Response: We have revised the text so that the novelties are now clear.

2. The objectives are not very well established.

Response: We have now revised the objectives so that they are clearer.

3. Methods: The specific objective of the study is elucidated in this section “A more specific aim within the project, which is expressed in this study, is to explore household purchasing power, maternal age and smoking, and parental educational level on breastfeeding at four months of age”. But in my opinion, household purchasing power is not the same that neighbourhood purchasing power.

Response: We only have aggregated (parish-level) data on household purchasing power, viz. the proportion of resident families with low household purchasing power. We do not have family-level data on household purchasing power; data of this kind were not collected from the study cohort. Our objective was to address the influence of neighbourhood purchasing power on breastfeeding at four months of age (with additional interest in the influence of maternal age and smoking and parental educational level). We have corrected the text in relation to our objective.

4. Why should the reader suppose that parish is a homogenous spatial area regarding SES?

Response: Neighbourhood data, reflecting contextual SES, were available at parish-level. It could not be assumed that each parish was a homogeneous spatial area in terms of SES. Nevertheless, it emerged that the method, when applied to neighbourhood purchasing power, based on parish-level data, revealed a contextual effect. It is possible that other spatial areas might have revealed a more pronounced contextual effect. We have addressed these aspects in the discussion section.

5. In statistical analysis, authors should to justify why they did not adjust for familial income or purchasing power, probably the factor more closely associated to the probability of breastfeeding. Indeed, authors should justify why they tried to examine the associations in both ways Ors and RRs.
Response: We do not have family-level data on income or household purchasing power; data of this kind were not collected from the study cohort. We point out this lack of data in the discussion section. Furthermore, in the statistical method section, we have justified the ORs (reflecting the effects of each explanatory variable in a conventional way) and the RRs (reflecting the effect of neighbourhood purchasing power based on the multi-level model applied).

Results

6. In text, some results appear duplicated, i.e. prevalence of not breastfeeding at 4th month (16.3%, 29.4% ...), and these data are also shown in tables repeatedly.

Response: We have examined the results carefully and omitted those parts that may be judged as duplicate.

7. Authors said that “The new finding in the present study is that household purchasing power is still a determinant of breastfeeding when maternal age, smoking and parental education are adjusted for. This demonstrates the need to take into account both parental income and individual characteristics when conducting similar studies.”

Thus household purchasing power is a determinant of breastfeeding, not neighbourhood, and in the multilevel analysis, therefore in the multilevel analysis the cluster should be family, not the neighbourhood.

Response: We have corrected and rephrased this paragraph in the discussion. We wish to stress that we analysed neighbourhood purchasing power and that we do not have family-level data on household purchasing power from the study cohort. In other studies, provided family-level data on household purchasing power were available it would be of interest to extend the analysis.

Minor comments: The writing is something thick, unfocused, and not easy to reading. For example, if the third paragraph was deleted the paper not lose much.

Response: We have revised the manuscript according to the reviewer’s suggestion.