Reviewer’s report

Title: Hair Product Use, Age at Menarche and Mammographic Breast Density in Multiethnic Urban Women

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Reviewer: Zorimar Rivera-Nunez

Reviewer's report:

Journal: Environmental Health

Author: McDonald et al.

Title: Hair product use, age at menarche and breast density in multiethnic urban women

Review Date: Sept 6th, 2017

Summary:

This study explores the use of hair products and breast cancer risk factors. Although it has a small sample size, it is important to present this data. There are only a few other studies that have examined these relationships in the very important field of EDC. The study population is also important given the race/ethnicity distribution. There are some moderate changes suggested to the authors (below). Mainly, the Methods section needs to be clearer and more linear to better describe the statistical modeling procedures.

Page 7, line 27: The third sentence on this paragraph starts without introduction of the second studied breast cancer risk factor, ie. breast density. Or the first sentence should say "We examined two breast cancer risk factors: age at menarche and breast density." The authors mentioned these two factors in the Intro but here in the Method the sentences are not clear and/or cohesive.

Page 7, Line 42: I would suggest changing epidemiologic data for demographic data.

Page 8, line 4-9: This sentence is not clear. Were the confounders selected a priori or when they changed the estimate by more than 10%? By "selected" the authors referred that these two confounders were tested or included in the models?

Page 8, Lines 13-20. This sentence clarifies better my previous point. This sentence should proceed sentence in lines 4-9. If all these confounders were tested (change greater 10%), there is no need to establish a priory. These whole section of confounder selection needs to be more clear.
Page 8, Lines 40-45. I suggest adding these results to Table 2 as an additional column and present them as adjusted for demographic covariates models. Even though they are not statistically significant, it is important that the risk is still higher after this adjustment. Also, authors showed adjusted models for breast density in Table 3 but not for age at menarche (Table 2), I am not sure why.

Page 10, Line 27-29: Typo

Page 10, Line 58: or the sample size is too small to detect this association in the White women population.

Table 3: It is not clear what the authors modeled in the breast density models, percent density? This should be clear in Table 3 and in the Methods text.

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