Reviewer’s report

Title: Use of skincare products and risk of cancer of the breast and endometrium: a prospective cohort study

Version: 0 Date: 10 Oct 2019

Reviewer: Kyla Taylor

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* On line 49 it says the questionnaire, "included questions on use of skincare products such as hand cream, facial cream and body lotion."

Does this mean that there were other skincare products included in the questionnaire not included in this analysis? If so, why were these other products excluded?

* Authors say that questionnaires were distributed in waves. What were the differences in questions related to personal care product use by wave? What level of detail did this study include compared to the individual waves? Considering the very large number of participants, why not also look at some of the more detailed information if available?

* The authors have not discussed measurement error in the exposure variable which may be important.

a. Did the questionnaire ask about which areas of the body women applied body lotion or did it just ask about general use?

b. Why is it assumed that using body lotion corresponds to complete coverage of the entire body (other than face and hands) when it may just be used on arms or legs and not also, for example, back and feet.

Is it possible that women are mis-categorized as "heavy" users when they are actually "moderate users"? For example, if a woman reports using face, hand and body lotion twice per day, but only uses body lotion on her lower arms, exposure would be vastly overestimated. It looks like hand and face lotion makes up <10% of the body (Sandanger 2011), so there seems to be lots of room for measurement area by assuming use of body lotion equals 90% coverage.

c. What impact might potential measurement error have on the association/lack of association seen? This should be covered in the discussion section.

* In the discussion, authors say "our exposure measure "% body surface creamed per day" does not differentiate between frequent low exposure (e.g. daily application of facial cream) and less frequent higher exposure (e.g. use of body lotion once a week) which may be important if dermal absorption of EDs on specific areas is more relevant for breast/endometrial cancer than continuously elevated systemic concentrations."
This is an important point. Because the data is available, why not conduct a secondary analysis looking at the frequency of skincare product use (total and stratified by location and breast/endometrial cancer use)?

* In the discussion, the authors make comparisons with Taylor et al. Taylor et al 2017 and 2018 included nine different skincare products (cleansing cream, anti-aging cream, body lotion, hand lotion, face cream, foot cream, petroleum jelly, talcum powder applied under arms, and talcum powder applied elsewhere) compared to this study's three. Author's should mention these differences in their discussion and address whether this may have contributed to the differences in results.

* Other than PCPs being a source of both parabens and phthalates, other potential endocrine disrupting chemicals found in PCPs, and mixtures in general, are not mentioned by the authors. This is a particularly important topic, as these products are inherently chemical mixtures.

* Authors say, "In fact, an inverse relationship between skincare product use modelled in continuous scale and postmenopausal breast cancer risk was observed, which may indicate that skincare product use is a proxy marker for other beneficial behavior that our questionnaire did not cover."

Would authors explain what other beneficial behavior skincare product use may be a proxy for?

* Authors say, "In fact, given the advanced age of the study participants, it is likely that their use of skincare products during childhood and adolescence were lower than what is common among children and adolescents today."

Why would these study participants be expected to use less skincare products during childhood than children and adolescents today?

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