Reviewer's report

Title: Determinants of Polyp Size in Patients Undergoing Screening Colonoscopy

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Reviewer: Michael Hoffmeister

Reviewer's report:

Thank you very much for this very well written and interesting manuscript on the clinically relevant topic of determinants of polyp size. There are only few points that I would like to address:

(1) Please be more specific when referring to colorectal cancer, because sometimes it is not clear whether colon or colon+rectum (or colorectal) is meant (e.g. Introduction, line 1, Tables).

(2) Introduction, page 4, para 2, line 5: This sounds a bit exaggerated ("reducing the burden of colorectal cancer") regarding the potential the knowledge of polyp size determining factors has.

Methods, page 6, para 2,

(3) line 3: is it any family history of colon (or colorectal) cancer, or is it first-degree family history of CRC? This makes a difference with to CRC risk, and may be worth discussing in comparison to previous studies on family history and polyp size if dissimilar definitions were used.

(4) line 5: "this variable" I imagine there can be more than one variable among the histologic results. Please be more specific (adenomas, hyperplastic polyps?). It should also be stated in the Methods section why no differentiation was done between adenomas and hyperplastic polyps, as risks differ quite a lot. Did previous studies differentiate between size of HPP or adenomas? If yes, a discussion on potentially different associations would improve the interpretation of results.

Discussion, page 11, para 3:

(5) Please be more specific when referring to missing underlying pathologic diagnosis. I think a manuscript on polyp size should include the mention of HPPs, adenomas, advanced adenomas and cancer, which are all polyps.

"we have no information..." followed by "Restricting the data set to those patients with a confirmed pathologic diagnosis" is confusing (is pathologic information available or not?).

(6) An fine description is included that the addition of lifestyle factors and may be genetic factors is required to obtain fully adjusted results. This should also be mentioned briefly in the limitations section.
Discussion, page 12, para 1:

(7) The potential of bias by not adjusting for previous colonoscopies needs to be addressed in detail, as this can be a strong cause of bias in your study. I think this discussion cannot be restricted to age only. You may not have found a higher risk for larger polyps among those with a family history because these people may have undergone colonoscopy more often. Also, black people are less likely to have had a colonoscopy than white people in the US, which may explain the larger polyps in black people. People visiting academic sites for colonoscopy may be more health conscious and thus undergo screening more often than people visiting community sites.

(8) Finally, please discuss whether adding information from patients with negative colonoscopies as an additional comparison group would have been helpful for the interpretation of results.

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.