Reviewer's report

Title: Common low-penetrance risk variants associated with breast cancer in Polish women

Version: 1 Date: 19 June 2013

Reviewer: Sajjad Rafiq

Reviewer's report:

Major revisions:
In the methods section the authors should provide sample size calculations.

In the results section of the abstract, the authors need to provide the p-value which would suggest a potential replication based on the bonferroni criteria. Also the p-values of SNPs which are specifically mentioned as to be associated with familial and sporadic cancer should be presented.

Minor essential
In the methods section the last sentence has an error, as the bonferroni corrected p-value for 16 association tests cannot be 0.05. It has to be 0.05 divided by 16=3.1 x 10^{-3}.

In the results section the second paragraph the SNP selection can be moved to the methods section. In an earlier section of the manuscript the authors mention that 35 SNPs are known to be associated with susceptibility of breast cancer. Are all of these 35 SNPs known to be associated from GWAs or have you included candidate gene study SNPs as well. Why were only 8 GWAs SNPs tested, Were these 8 the most strongly associated SNPs in European populations? Were the 5 SNPs chosen from previous candidate gene studies associated with susceptibility in any of the genome wide association studies. Or were any SNPs in linkage disequilibrium with these 5 SNPs associated with susceptibility at GWAs level of significance?

In the results section in the second paragraph line 4 , Is the sentence supposed to read "Additional five SNPs were selected based on the data"?

In paragraph 3 line 1 of the results section the authors should mention exactly what they refer to as significant.

In paragraph 4 of the results section the authors mention that rs1219648 and rs1799944 were excluded from the dataset and then represented by tagging SNPs. Please advice how strongly (r2 value) did these tagging SNPs tag rs1219648 and rs17999444

Level of interest: An article of importance 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 have no competing interests with regards to my role as a reviewer for this article