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LETTER TO EDITOR

Response to Dr. Sorscher

Heidi Lumish[1] · **Wendy Chung**[1]

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Thank you very much for your careful reading of our manuscript and your thoughtful comments. You raise two interesting points pertaining to the population tested in our study. For those individuals in our study who had a negative genetic test result, their care was managed based on the National Comprehensive Cancer Network (NCCN) guidelines, as you suggested. Our study, however, was not powered to distinguish between levels of anxiety among patients with different risk profiles. With regard to the penetrance of *BRCA1/2*, in theory it is possible that the risk for individuals with no personal or family history of breast or ovarian cancer differs from the risk of those with a significant personal or family history of cancer. These two populations could have different types of *BRCA1/2* mutations (Rebbeck et al. 2015) and/or modifiers at separate loci could also alter the risk conferred by the *BRCA1/2* mutation (Barnes and Antoniou 2012; Couch et al. 2013; Gaudet et al. 2013; Hamdi et al. 2017). However, participants in our study came through a cancer genetic clinic and were referred for either a personal and/or family history of breast or ovarian cancer. Further research beyond our study will be necessary to address your important points.

Heidi Lumish and Wendy Chung.

References

Barnes, D. R., & Antoniou, A. C. (2012). Unravelling modifiers of breast and ovarian cancer risk for BRCA1 and BRCA2 mutation carriers: update on genetic modifiers. *Journal of Internal Medicine, 271*(4), 331–343. doi:10.1111/j.1365-2796.2011.02502.x.

Couch, F. J., Wang, X., McGuffog, L., Lee, A., Olswold, C., Kuchenbaecker, K. B., et al. (2013). Genome-wide association study in BRCA1 mutation carriers identifies novel loci associated with breast and ovarian cancer risk. *PLoS Genetics, 9*(3), e1003212. doi:10.1371/journal.pgen.1003212.

Gaudet, M. M., Kuchenbaecker, K. B., Vijai, J., Klein, R. J., Kirchhoff, T., McGuffog, L., et al. (2013). Identification of a BRCA2-specific modifier locus at 6p24 related to breast cancer risk. *PLoS Genetics, 9*(3), e1003173. doi:10.1371/journal.pgen.1003173.

Hamdi, Y., Soucy, P., Kuchenbaeker, K. B., Pastinen, T., Droit, A., Lemacon, A., et al. (2017). Association of breast cancer risk in BRCA1 and BRCA2 mutation carriers with genetic variants showing differential allelic expression: Identification of a modifier of breast cancer risk at locus 11q22.3. *Breast Cancer Research and Treatment, 161*(1), 117–134. doi:10.1007/s10549-016-4018-2.

Rebbeck, T. R., Mitra, N., Wan, F., Sinilnikova, O. M., Healey, S., McGuffog, L., et al. (2015). Association of type and location of BRCA1 and BRCA2 mutations with risk of breast and ovarian cancer. *JAMA, 313*(13), 1347–1361. doi:10.1001/jama.2014.5985.

✉ Wendy Chung
wkc15@columbia.edu

[1] Columbia University, New York, NY, USA