Reviewer's report

Title: Cancer fear in older adults

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Reviewer: Jennifer Hay

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This study assesses fears and worries about cancer (fear indicators) in a UK sample of older adults (N=13,351) aged 55-64, and demographic covariates of these fear indicators. The data presented here was collected as part of a larger study of utilization of flexible sigmoidoscopy in primary care practices. The three items used to examine cancer fear indicators include: 1) of all the diseases there are, I am most afraid of cancer, 2) it makes me uncomfortable to think about cancer, 3) I worry a lot about cancer, operationalized as level of agreement (1=strongly disagree to 5=strongly agree). The stated rationale for the study concerns the need to examine multiple aspects of cancer fear, and to examine the role of dispositional anxiety and demographic correlates of fear indicators. Findings indicate moderate inter-correlations between the items, with all fear indicators associated with female gender, lower education level, ethnic minority status, and general anxiety. While the topic of cancer worry and behavioral and psychological outcomes associated with cancer worries is an important issue in cancer prevention and control, it is unclear what this paper adds to the literature. In terms of the demographic assessments, given the sample was almost exclusively (96%) White, the few individuals representing other ethnicities were merged together for the analyses, making it difficult to interpret the meaning of higher fear in the very small non-White group. Further, the education question, “do you have any educational qualifications?” would seem to be open to wide interpretation by study participants, making it difficult to interpret this finding, as well. The strength of the study is certainly the large sample size, yet it is unclear whether this sample is representative of the general population or of those who attend primary care clinics. The weaknesses of the study involve the lack of clarity concerning the significance of the research questions, as well as whether the study provides any novel findings. Finally, the discussion section presents the rate of high cancer worry in the population (about one-quarter) in an exclusively negative light, which does not adequate capture the full implications - both good and bad - of cancer worries. While a quarter in this sample worried a lot about cancer, three-quarters did not worry much or at all…could this also be a bigger problem? Worry has been found to galvanize cancer screening such as mammography screening for breast cancer, as well as colorectal cancer screening, but this substantial literature is not discussed.

Additional comments

Background

The significance of examining different aspects of worry and fear, whether they
inter-correlate, and whether demographics correlate consistently with each type of worry is not made clear. Why does this warrant study? Would some aspects of worry promote behavior change whereas some aspects inhibit it? Would some forms of worry lead to distress and others not? A thorough literature review is needed here to provide a basis for the significance of the current questions and data used to assess it.

The use of an older participant sample is neither discussed nor justified here. It could be argued that worries about cancer might be more or less salient in an older sample – what is the literature? Why does this sample warrant study?

Methods
It would be important to consider personal or family history of cancer in demographic variables.

Throughout the methods section (ex: line 103, line 106), dichotomization of variables in “some analyses” is described. This section and the recodes should be much more specifically and transparently presented, with rationale for recoding.

It is not clear that the measures available are adequate to answer the proposed questions. For cancer fear, three specific items are used, and while they appear face valid, they are extracted from an established measure. Why wasn’t the full measure used, where reliability and validity data could be cited? How do these items relate to established measures for cancer worry, or intrusive ideation about cancer? It is unclear, then, what the moderate correlations between the items represent, as the three unique items used to assess the proposed three different elements of worry may or may not adequately represent these three elements.

Statistical analyses
It would be useful here to clarify the dependent variables used.

The section describes the two multivariable logistic regressions, which are called “model 1” and “model 2” in Table 3. Please provide a description of “models 1 and 2” in Table 3. Please provide the terms model 1 and model 2 in the statistical analysis section.

Results
63% reported no “educational qualifications”? What does this mean? No primary school? No university?

The questionnaire return rate is not high at 60%. Were participants aware that the survey involved cancer? Non-responders could have been more worried about cancer than responders; are reasons for refusal available for reporting?

Since the age range was narrow, and most participants were married, it is not surprising that age and marital status were not related to fear indicators.