Reviewer’s report

Title: Responses to provision of personalised cancer risk information: a qualitative interview study with members of the public

Version: 0 Date: 16 Jun 2017

Reviewer: Barbara Cochrane

Reviewer's report:

This manuscript reports on a qualitative study of individuals' perceptions about personalized cancer risk information provided to them. Strengths of the manuscript include the consideration of different formats for communicating personal risk information and the opportunity for individuals to see the linkage between lifestyle change and impact on individual risk. Weaknesses include a limited foundation for the significance and unique contribution of the study, insufficient evidence provided for the personalized cancer risk appraisals (combined and specific types) and conveying the impact of possible lifestyle changes, and insufficient information about the qualitative underpinnings and approach for the study. More detailed comments about these and other considerations are included below.

1. There have been many studies of responses to cancer risk appraisal (e.g., breast cancer risk appraisal), and although the statement on page 4 (2nd paragraph) indicates that tools are rarely used in healthcare settings (and the Abstract conclusion indicates that providing personalized cancer risk may be a useful component of cancer prevention initiatives”), there are no citations supporting this statement. Therefore, discerning the unique contribution this study makes to the scientific literature on risk communication would be a challenge for the reader.

2. The personalized cancer risk appraisals (combined and specific types) are described as being based on the "YourDiseaseRisk" models in Colditz et al. (2000). The manuscript indicates that the study's adaptation of these algorithms will be reported elsewhere, which is unfortunate, because I think it would be important to know if more recent updates to these algorithms were incorporated and how the current study took into consideration that the cancer algorithms are most accurate for people age 40 and over. What was the evidence base for the impact of possible lifestyle changes on cancer risk and considerations for conveying that specific information to individuals? In addition, I was surprised that individuals with personal or family history of cancer were included; would the risk calculations have been relevant to those with personal history of cancer?

3. Although the study is identified as "qualitative" (interview) research, the methods do not convey an underlying inductive/interpretive underpinning (e.g., grounded theory, phenomenology, or even content analysis) consistent with a qualitative paradigm. Thematic
analysis (a component of most if not all such research) is identified as the analytic approach, but there are no citations included to support the particular thematic analysis steps used. The "themes" and quotes identified in the Results section seem to be organized around the (presumed) questions asked, rather than themes derived from the participant responses (it would be helpful to include brief information about the interview questions).

4. The title and purpose indicate that the authors are seeking to understand responses of the "public" to personalized cancer risk information - but that could encompass quite a wide cross-section of individuals (particularly given the eligible age range of 18 to 65). Based on the Participants and Recruitment section on page 5, "public" in this study seems to refer to individuals who are accessing healthcare. Although recruitment apparently continued until data saturation was achieved, sampling approaches often used to ensure that exemplar, divergent, and/or negative cases contribute to the findings (e.g., "theoretical" and/or purposive sampling) were apparently not incorporated, such that the "public" could have been a fairly select/limited group of participants. Additional details about recruitment/sampling could help one's understanding of these issues. Were there many more "interested" participants than those actually enrolled (given recruitment stopped once data saturation was achieved) or did the 27 actual participants represent most (all?) of the individuals "interested" to date? Did all 27 completely fill out the pre-interview questionnaire or were participants excluded if they did not complete the questionnaire?

5. Given the number of health behavior theories that address personal views of risk and how such views motivate health behavior change, I think the findings of the study should be linked to existing theory, which is relevant to the abstract conclusion ("ways to present cancer risk that reflect the general perception of what constitutes a risk high enough to motivate behaviour change").

6. The Abstract does not include important considerations addressed in the manuscript Conclusions on page 18 (e.g., providing context for personalized cancer risk information).

7. Information about the sample's mean age (and standard deviation) should be included in the Abstract (and, ideally, in-text), even though it is listed in Table 1. Incidentally, in Table 1, the age category identifies greater than 60, but since 65 was the upper limit of eligibility, it would seem appropriate to just identify the category as 60-65.

8. In the interest of having tables that "stand alone," it would be helpful to include brief information about the sample or study focus (e.g., general public? study of personalized health information?) in the title for Table 1.

9. References should be formatted consistently, particularly capitalization of article titles and journal names.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
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Yes

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