Reviewer's report

Title: Complementary and Alternative Medicine Use in Ghanaian Cancer Patients Undergoing Radiotherapy and Chemotherapy: Characteristics of Users and Implications

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Reviewer: Erica James

Reviewer's report:

1. Is the question posed by the authors well defined? The question posed in a useful one – essentially to determine the prevalence and socio-demographic and medical correlates of use of CAM amongst cancer patients in Ghana. At the moment the proposed questions are poorly expressed (Background, paragraph 4) and the rationale needs strengthening.

2. Are the methods appropriate and well described? The methods section is currently inadequate. Areas requiring more detail/description include:
   • what were the explicit inclusion and exclusion criteria?
   • How were patients identified and recruited?
   • What was the response rate? ie. How many potential participants refused? Given this study seeks to assess prevalence, the generalisability of the sample is crucial.
   • What is the validity and reliability of the tool and how does its content compare to tools used in previous research (especially given the broad definition of CAM used in this study and the fact that CAM modalities are likely to be culturally specific)
   • How were non-literate respondents dealt with? Currently the manuscript says they were “guided” to complete the questionnaire. What does this mean? Were the question read out a loud to participants? If so, by whom? A member of the research team? A family member? A member of staff? In how many instances did this occur?

3. Are the data sound?
   The data presented are from n=98 patients. It is not possible to determine how representative this sample is as there is a) no response rate presented, b) no description of how participants were recruited, and c) no context or explanation given for the fact the participants were attending a hospital for treatment (the authors report in the discussion that 70% of the Ghanaian population depend exclusively on traditional medicine). This makes it very difficult to have confidence in the prevalence estimates presented.

   The authors present descriptive and chi-squared analyses only. It would have been much more rigorous for them to have used logistic regression and been able to report adjusted correlates (adjusted odds ratios) and 95% confidence
intervals for variables retained in the final model.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

The results include paragraphs that repeat data presented in figures/tables in the text (e.g., Table 1 and paragraph 1 of the results) and other paragraphs where there is no empirical data presented at all (e.g., Results paragraph 4 describing adverse events/side effects from CAM use). A table summarising all of the socio-demographic and medical factors would be useful, and then paragraph 1 of the results could simply summarise the sample.

5. Are the discussion and conclusions well balanced and adequately supported by the data?

Most of the first 2 paragraphs in the discussion should be move to the introduction as it provides a rationale for the present study rather than an explanation of the findings. The authors may find it useful to refer to recommendations for structured abstracts (such as those presented by Docherty & Smith 1999 BMJ) who recommend the following structure:

I. Statement of principal findings
II. Strengths and weaknesses of the study
III. Strengths and weaknesses in relation to other studies, discussing particularly any differences in results
IV. Meaning of the study: possible mechanisms and implications for clinicians or policymakers
V. Unanswered questions and future research

Discussion paragraph 5 sentences 3 and 4 contradict each other.
Perhaps SES and education were not correlated in this study due to less diversity in the sample rather than this not being a true effect?
The authors state there was no correlation between disease site and use of CAM but what about between treatment type and use of CAM. Previous research strongly suggests higher use of biologically based CAM amongst those who have chemotherapy.

6. Are limitations of the work clearly stated?
The limitations are not discussed at all

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
The literature review presented in the background is inadequate. The following additions should be made:

i) Possible contraindications for use of CAM with particular emphasis on the biologically based therapies (for example: Concern about lack of quality in the preparation of some herbal remedies (Drew and Myers, 1997), along with identification of potentially harmful side effects and dangerous interactions with
cancer treatments (Lawenda et al., 2008; McCune et al., 2004; Sparreboom et al., 2004), have led to recommendations that cancer patients discuss CAM use with health care providers (National Cancer Institute, 2009).

ii) Previous research demonstrating that few patients discuss CAM with health professionals (for example: However fewer than 50% disclose CAM use to providers (Eschiti, 2007; Jazieh et al., 2004; McCune et al., 2004; Sparreboom et al., 2004; Velicer and Ulrich, 2008) and instead report their main source of information as coming from the lay community (Ferrucci et al., 2009; Hann et al., 2005; MacLennan et al., 2002; McCune et al., 2004).

iii) More review and synthesis of previous correlates studies internationally highlighting that many studies are of samples of a single cancer type, or using a more restrictive definition of CAM (for example: nutritional supplements and vitamins were the most popular CAM reported by participants (Maskarinec et al., 2000; Shumay et al., 2002; Swarup et al., 2006). On the other hand, other research indicates that herbal treatments are the most commonly used BBCAM (Shumay et al., 2002; Ucan et al., 2008). Breast cancer patients have been previously identified as high users of BBCAM and CAM in general (DiGianni et al., 2002; Gerber et al., 2006; Miller et al., 2008; Patterson et al., 2002; Saxe et al., 2008).

The statement that “most patients in the developing world including Ghana are diagnosed at a stage when most conventional therapies fail; this is a result of the absence of screening and educational programmes, others also recur after varying periods of remission and majority become incurable with conventional therapies” (Background paragraph 2) needs a supporting reference.

Refs #7 & #8 should be used rather than reference #6 in the definitions of CAM section. Ref #9 is not the original source – the authors should cite either a review article here or cite the original references. I am not familiar with the term ‘interval study’ and suggest the authors have conducted a cross-sectional survey.

8. Do the title and abstract accurately convey what has been found?

The abstract requires the following amendments: Background: higher usage than who? Other patients? The general population? Patients and Methods – expand description to include the types of treatments included, how patients were recruited and analysis technique used. Results – include response rate. “are more inclined” and “found not to influence” should be rephrased eg. “more likely to report” or “not correlated with...”

9. Is the writing acceptable?

There are instances of informal writing such as “kept their doctors in the dark” (failed to disclose CAM use to treating health professionals), “…leads to a vicious cycle” that should be amended.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. Amend abstract to include response rate and details of analysis conducted
Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

1. Rewrite introduction and include additional review of previous research, synthesis of contraindications for CAM use in this target group including lack of disclosure.

2. Make additions to method as outlined above (recruitment techniques, response rate, explicit inclusion & exclusion criteria).

3. Conduct more rigorous analysis (eg. regression modelling).

4. Rewrite results section so that data is either presented in tables/figures or in text, not both. Consider sub-headings for the presentation of findings (Description of sample, Correlates with CAM use, Adverse events/side effects of CAM use).

5. Restructure discussion, include limitations of the study and more comparison of current findings to previous work in this area.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests