Author's response to reviews

Title: Cancer symptom awareness and barriers to medical help-seeking in Scottish adolescents: a cross-sectional study

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Author's response to reviews: see over
Cancer symptom awareness and barriers to medical help-seeking in Scottish adolescents: a cross-sectional study

(N.B. This is a slightly revised Title)

BMC Public Health

Dear editor

We wish to take this opportunity to thank the reviewers for their time in considering our article for publication in BMC Public Health. We are delighted to have been given the opportunity to make minor revisions, which we have duly done. The changes that we have made are described in detail below.

We hope that you can also see an improvement to our original submission and agree to publish our revised paper.

Best Wishes,

Dr Gill Hubbard

REVISIONS
<table>
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<th>Referee comments</th>
<th>Our response</th>
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<tr>
<td><strong>Reviewer 1</strong></td>
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<td>This is a well written and structured paper and provides a valuable contribution to an important current debate on improving the diagnostic experience for young people with cancer. Important details in this paper relate to differences in cancer awareness between groups and the influence of emotional barriers to seeking help for adolescents. Thus, for this age group in particular, educational cancer campaigns targeting only signs and symptoms only may not be sufficient to change healthcare seeking behaviour. I have no major compulsory revisions but the discrepancy between figure 1 and the text in sample and setting needs to be clarified prior to publication.</td>
<td>We are delighted that Reviewer 1 thinks that the paper is well written and that the subject matter is important. We are also pleased that Reviewer 1 only recommends minor amendments. We have addressed this.</td>
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<tr>
<td><strong>Abstract</strong></td>
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<td>There is no mention in the introduction of the abstract or in the sentences which describe the purpose of the study (lines 59-63) that the paper focuses on adolescents. This should be inserted.</td>
<td>We have added ‘adolescents’ to the sentence.</td>
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<tr>
<td><strong>Introduction</strong></td>
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<td>Line 91: Reference 1, Viner et al., 2011 doesn’t specifically mention cancer deaths for teenagers and young adults. An alternative reference should be sourced; this data is available from the Office for National Statistics website. Line 96: A sentence about survival rates for TYA would be helpful prior to the sentence about survival and early diagnosis. Lines 180-185: Doesn’t mention the study is about adolescents, please insert.</td>
<td>We have changed this to a more recent publication: [1]. Wolfe I, Macfarlane A, Donkin A, Marmot M, Viner R: Why children die: deaths in infants, children and young people in the UK. Part A. London: Royal College of Paediatrics and Child Health and National Children’s Bureau 2014. This sentence now reads as follows and the reference has been changed accordingly: In the United Kingdom (UK) there are around 2,200 teenagers and young people diagnosed each year and more than 80% survive the disease for at least 5 years, although there is considerable variation in survival between diagnostic groups[2]. We have added ‘adolescents’ to the sentence.</td>
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<td><strong>Setting and sample</strong></td>
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<td>Line 197: states that nine schools informed the researcher they did not want to participate but the flow diagram in figure 1 states that 9 schools were excluded as pragmatic recruitment target of 20 schools. Please clarify.</td>
<td>We have clarified this by changing the sentence as follows: Nine schools either informed a researcher that they did not wish to participate (n=3) or after three attempts to speak with the head-teacher by telephone were unable to be reached (n=6).</td>
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</table>
Were there any similarities in the 9 schools who did not want to participate/were excluded?

We have also changed Fig 1 accordingly.

We have added further information about schools that declined to participate/were not contactable as follows:

To the best of our knowledge the composition of non-participating schools was not systematically different from participating schools since non-participating schools exhibited a similar geographical spread and deprivation profile to participating schools.

Sample
Line 322: Insert ‘years’ after 12.4

Table 1: the first line of the table does not fit with the table headings. Age Mean (SD) 12.4 sits under a ‘%’ and (0.55) under ‘n’

We have inserted the word ‘years’

We have revised Table 1 as requested.

Results
Well written and clear.

Discussion

Around lines 467-472 can the authors add a sentence or two acknowledging that the data collected is on 12/13 year olds and the age of patients referred to in the introduction is 15-24 years?

Not essential but the authors may want to consider emphasising the importance of teaching cancer awareness to young people in schools given the low awareness of cancer symptoms demonstrated here and the fact that current cancer awareness campaigns are mainly adult driven.

We have added the following sentence:

Moreover, this study focused on early adolescence (12/13 year olds), during which different patterns of cancer awareness than late adolescent and early adulthood (i.e. 15-24 year olds) may exist.

We have added the following sentence in the conclusion now as follows:

Thus, interventions to increase cancer awareness in schools are required and may address the adult focus of cancer awareness campaigns.

Reviewer 2

This is a good well-written and clear paper. I have no significant issues with the paper but there are a number of issues that, if dealt with, I think would improve the paper.

We are delighted that Reviewer 2 concurs with Reviewer 1 and that there are no significant issues with the paper.

First, as the authors rightly point out little has been written about adolescent help-seeking and as such the use of measures designed for adults seems sensible. However, I was a little confused about whether the authors wanted to use their data to predict adolescent help-seeking while they were adolescents or if they were suggesting that this laid the ground work for future appropriate help-seeking. I think this needs to be made clearer because I wonder is cancer in adolescents presents in the same way as with adults? Some common adult cancers which the measures hope to tease out are less common in

To make this clearer we have changed the final paragraph in the introduction so it now reads as follows:

To address gaps in evidence the aim of the study about adolescents was therefore to examine: 1) the relationship between contextual factors (gender, ethnicity, deprivation, knowing someone with cancer) and awareness of signs and symptoms of cancer and barriers (including emotional barriers) to seeking medical help during adolescence, and 2) associations between
adolescents? anxiety and endorsed barriers to seeking medical help during adolescence. In doing so, we aim to provide insight into factors likely to influence symptom appraisal and help-seeking intervals during adolescence and inform further research about early presentation[9].

We have also added a sentence in the limitations section to try to make it clearer that we are focusing on adolescence:

Moreover, this study focused on early adolescence (12/13 year olds), which may exhibit differential patterns of cancer awareness than late adolescent and early adulthood (i.e. 15-24 year olds). Understanding when differences emerge may be important for the purposes of intervening to change public cancer awareness and help seeking behaviour. Future longitudinal studies are therefore required to contribute towards understanding how cancer awareness and medical help seeking change across the life-course.

Related to this the authors - rightly - consider experience of cancer in the family as an important indicator or awareness and while they break this down into. 'Closeness' this is not described in the results. I wonder if a 12 year old who had a grandparent with cancer is more aware than a 12 year old with a sibling or parent?

This is an interesting point. Our analysis compared those that did and did not know someone with cancer. We found that knowing someone with cancer was associated with cancer awareness irrespective of who they knew (i.e. i) you, ii) close family member (e.g. mum, dad, brother, sister, grandma, granddad), iii) other family member (e.g. aunt, uncle, cousin), iv) close friend, v) other friend.). Therefore we did not think it necessary to conduct sub-group analysis of those who did know someone with cancer.

I also wonder if some more justification could be given for why the authors chose 12 year olds. We have added this sentence to the final paragraph of the introduction:

The study focused early adolescence (12/13 years) because it is the start of adolescence, which is a key life stage transition.