

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	What are the physical and psychological health effects of suicide bereavement on family members? An observational and interview mixed-methods study in Ireland
<b>AUTHORS</b>	Spillane, Ailbhe; Matvienko-Sikar, Karen; Larkin, Celine; Corcoran, Paul; Arensman, Ella

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Karl Andriessen School of Psychiatry, University of New South Wales, Sydney, Australia
<b>REVIEW RETURNED</b>	18-Sep-2017

<b>GENERAL COMMENTS</b>	<p>Thank you for providing me the opportunity to review this interesting manuscript. The study has a well-defined focus, and I appreciate the mixed-methods approach, which is a promising (e.g., comprehensive) avenue to forward our knowledge of suicide bereavement and the needs of those bereaved. Adaptation of COREQ is fine.</p> <p>Notwithstanding the potential importance of the study, my major concern relates to the analysis and presentation of the qualitative results. Thematic analysis should result in clear, distinct themes that express the experience of the participants. However, the current four themes seem to be limited to a description of the content of the interviews.</p> <p>Of course, I do not have access to the transcripts of the interviews, but what strikes me in the sections 'Immediate grief reactions' and 'Enduring ... difficulties' is the importance of the physical/psychosomatic reaction in addition to classic grief reactions such as sadness etc. As such, the intertwining of the physical and psychological/mental health reactions, in the experience of the participants, could be an important theme.</p> <p>When I read the results regarding the 'Range of support needs ...', I notice there are tensions between the needs, and the availability and the offers for support from family/friends and professionals. This ('tensions') could be another major theme.</p> <p>The section 'Reconstructing life...' seems to be rather small to be a separate theme. Maybe it can be integrated in one of the other major themes. Is it part of a grief reaction? Does it occur within a dialogue with family or caregivers?</p> <p>Subsequently, authors may have to look at the Discussion section as well.</p> <p>In addition, the Discussion should address more precisely how the qualitative and quantitative results relate to each other. Do they confirm or contradict each other? Do they identify gaps? Clearly, the</p>
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	<p>mixed-methods design is a strength of the study. Please discuss how it worked.</p> <p>A few minor comments</p> <p>Page 4, line 8: ... conducted into explore ... : something wrong with sentence</p> <p>Page 4, line 15: ... natural death that they were ... something wrong with sentence</p> <p>Page 5, lines 33-55: Add gender distribution of the interviewee sample</p> <p>Page 5, lines 33-55: add kinships of the sample. For example: Interviewees were a spouse (n=...), a parent (n=...), a sibling (n=...), a child (n=...), other (n=...)</p> <p>Page 8, lines 10-19: Add a summary of the lead interview questions.</p> <p>Page 10 and further: Add kinship to the quotes. The quotes may be more appealing if the reader knows who spoke.</p> <p>Page 16, line 40 and line 52: Information about hanging was repeated.</p> <p>Page 22, line 10: focus on your results and implications, rather than citing other research. Citing other studies might be better placed in the Discussion.</p> <p>I am aware that I am giving authors a little bit of work by asking to revisit the Results. However, I am convinced that the paper will be much stronger if authors can pull out and present the core themes. Focus on what stands out. I am happy to review a revised version of the manuscript. Congratulations with a fine study. Wishing you good luck.</p>
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<b>REVIEWER</b>	Sara Santos University of Évora - Portugal
<b>REVIEW RETURNED</b>	17-Oct-2017

<b>GENERAL COMMENTS</b>	<p>On page 16, line 45, it is suggested to start the paragraph by placing the number by 39.4% in full. For example: "Thirty-nine and four percent of suicide decedents ..."</p> <p>Congratulations on the excellent paper!</p>
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### VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name: Karl Andriessen

Institution and Country: School of Psychiatry, University of New South Wales, Sydney, Australia

Please state any competing interests: None declared

Please leave your comments for the authors below

Thank you for providing me the opportunity to review this interesting manuscript. The study has a well-defined focus, and I appreciate the mixed-methods approach, which is a promising (e.g., comprehensive) avenue to forward our knowledge of suicide bereavement and the needs of those bereaved. Adaptation of COREQ is fine.

Comment: Notwithstanding the potential importance of the study, my major concern relates to the analysis and presentation of the qualitative results. Thematic analysis should result in clear, distinct

themes that express the experience of the participants. However, the current four themes seem to be limited to a description of the content of the interviews.

Of course, I do not have access to the transcripts of the interviews, but what strikes me in the sections 'Immediate grief reactions' and 'Enduring ... difficulties' is the importance of the physical/psychosomatic reaction in addition to classic grief reactions such as sadness etc. As such, the intertwining of the physical and psychological/mental health reactions, in the experience of the participants, could be an important theme.

When I read the results regarding the 'Range of support needs ...', I notice there are tensions between the needs, and the availability and the offers for support from family/friends and professionals. This ('tensions') could be another major theme.

The section 'Reconstructing life...' seems to be rather small to be a separate theme. Maybe it can be integrated in one of the other major themes. Is it part of a grief reaction? Does it occur within a dialogue with family or caregivers?

Response: The authors revisited the analysis and revised it at a more conceptual level to better elucidate themes encompassing participants experiences. As a result of this revision some of the previous themes were collapsed/amended and new themes were generated to develop three distinct themes:

1. Co-occurrence of grief and health reactions
2. Disparity in supports after suicide
3. Reconstructing life after deceased's suicide

The first theme incorporates two previous stand-alone themes, 'immediate grief reactions' and 'enduring physical, psychological and psychosomatic health difficulties'. 'Immediate grief reactions' and 'enduring physical, psychological and psychosomatic health difficulties' are retained as sub-themes in the results of this analysis as there is an important time component to these subthemes. This time component refers to how health reactions and experiences differed from the immediate aftermath of the suicide, where grief reactions such as extreme sadness, blame, guilt and anger were rife, to the medium to long-term after the suicide where diagnoses of depression, anxiety, post-traumatic stress disorder, hypertension, diabetes and diverticulitis were noted. In summary, it was clear from the interviews that health reactions differed from the immediate aftermath to the months after the death and we felt it was crucial to highlight this in the paper. The amended results section can be found on page 10-13.

The second theme, 'Disparity in supports after suicide' incorporates two subordinate themes, 'need for formal support' and 'need for informal support'. This theme was originally 'Range of support needs required and its influencers'. The authors agree with the reviewer that there is tension between the support required by the suicide-bereaved and those that are available to them. This revised theme better represents these tensions while highlighting the importance of different types of supports/support needs. The amended results section can be found on page 14-16.

The authors agree that the theme 'Reconstructing life after deceased's suicide was small as previously presented. The authors feel this is an important and legitimate theme in itself however. The theme primarily encompasses participants' experiences of their wellbeing and significant changes to their lives, including being forced to move house or give up work. Following revision of the analysis it was felt that there were additional elements relating to the reconstruction that are of equal importance and are now included. These additional components include participants' experiences of new relationships and aspects of their lives that contribute towards their sense of wellbeing. The amended results section can be found on page 16-18.

Comment: Subsequently, authors may have to look at the Discussion section as well.

In addition, the Discussion should address more precisely how the qualitative and quantitative results relate to each other. Do they confirm or contradict each other? Do they identify gaps? Clearly, the mixed-methods design is a strength of the study. Please discuss how it worked.

Response: Thank you to the reviewer for these helpful suggestions to improve the discussion section. When the results of the two methods are combined, they are confirmatory. Additionally, this mixed-methods study has also identified gaps in the literature where there is still a relative paucity of quantitative and qualitative research specifically on the physical and psychosomatic health outcomes of family members bereaved by suicide. Please see the additional paragraph included below, page 22-23:

“The findings from the semi-structured interviews corroborate the quantitative results of family members’ wellbeing, as measured by the DASS-21 scale. The quantitative findings show that nearly one quarter of family members had scores that indicated at least mild levels of depression. Furthermore, 1 in four and nearly 1 in five had at least mild levels of stress and anxiety, respectively. The qualitative interviews provided a greater insight into these difficulties through participants’ descriptions of visions/nightmares, suicidal ideation, suicide attempts and physician-diagnosed depression, anxiety and PTSD in the months following the suicide. Additionally, this mixed-methods study identified a gap in the literature relating to qualitative research specifically exploring the physical and psychosomatic health experiences in family members bereaved by suicide. Going forward, further quantitative research investigating the association between suicide bereavement and internationally validated measures of physical health is required”.

Response: The authors have added in a paragraph outlining how the mixed-methods study worked. Please see this paragraph below, page 23:

“The mixed-methods approach and the comprehensive recruitment process involved is a key strength of this study. Consecutive suicide and open verdict cases were identified via examining coroner’s records as part of a larger case-control study (SSIS-ACE). Basic information about the case and next-of-kin information was collected. Family members were initially contacted via letter and telephone to take part in a psychological autopsy study. Data on family members’ wellbeing was collected at the end of the psychological autopsy interview. This data was analysed and forms the quantitative component of this mixed-methods study.

Following their participation in the larger case-control study, those who provided written consent for follow-up were contacted by the first author of this paper to take part in an additional qualitative interview about their experiences following the suicide. Recruitment of the family members via coroner’s records and the consecutive nature of the suicide and open verdict cases reduces the likelihood of selection bias, which is often a significant problem in research addressing vulnerable populations[51]. The combination of quantitative and qualitative research provides a clear indication of the challenges and health problems encountered by family members bereaved by suicide”.

A few minor comments

Page 4, line 8: ... conducted into explore ... : something wrong with sentence  
Page 4, line 15: ... natural death that they were ... something wrong with sentence  
Page 5, lines 33-55: Add gender distribution of the interviewee sample  
Page 5, lines 33-55: add kinships of the sample. For example: Interviewees were a spouse (n=...), a parent (n=...), a sibling (n=...), a child (n=...), other (n=...)  
Page 8, lines 10-19: Add a summary of the lead interview questions.

Response: Thank you to the reviewer for drawing our attention to these points. These have been corrected. The gender distribution and the kinship of participants has been added on page 5:

"Therefore, eighteen interviews were conducted (female = 11; male = 7), which yielded a response rate of 75%. Interviewees were a spouse (n = 7), a parent (n = 5), a sibling (n = 2) and a child (n = 4)".

In addition a summary of the lead interview questions were included as follows on page 8:

"Interviews began by asking participants about the relationship they had with the deceased. The physical and emotional impact of the bereavement on them was then explored. The impact of the bereavement on the family and their social life was then explored. In addition, participants were asked about what support services they received and what they feel suicide-bereaved family members require in the immediate aftermath and the medium and long-term".

Page 10 and further: Add kinship to the quotes. The quotes may be more appealing if the reader knows who spoke.

Page 16, line 40 and line 52: Information about hanging was repeated.

Page 22, line 10: focus on your results and implications, rather than citing other research. Citing other studies might be better placed in the Discussion.

Response: The authors have now included the kinship for the main quotes presented. The studies cited in the implications paragraph have been removed, as advised by the reviewer.

I am aware that I am giving authors a little bit of work by asking to revisit the Results. However, I am convinced that the paper will be much stronger if authors can pull out and present the core themes. Focus on what stands out. I am happy to review a revised version of the manuscript. Congratulations with a fine study. Wishing you good luck.

Response: The authors would like to thank the reviewer for providing constructive feedback to improve the manuscript.

Reviewer: 2

Reviewer Name: Sara Santos

Institution and Country: University of Évora - Portugal Please state any competing interests: None declared

Please leave your comments for the authors below On page 16, line 45, it is suggested to start the paragraph by placing the number by 39.4% in full. For example: "Thirty-nine and four percent of suicide decedents ..."

Congratulations on the excellent paper!

Response: Thank you to the reviewer for bringing this to the attention of the authors. The sentence has been altered so that it does not start with a percentage, as follows page 16:

"The majority 39.4% of suicide decedents were educated to secondary school level (39.4%), followed by one quarter (27.3%) and one fifth (21.2%) were educated to post-leaving certificate and third level, respectively".

## VERSION 2 – REVIEW

<b>REVIEWER</b>	Karl Andriessen School of Psychiatry University of New South Wales Australia
<b>REVIEW RETURNED</b>	17-Nov-2017

<b>GENERAL COMMENTS</b>	<p>Many thanks for revising the manuscript, which has improved substantially. The three qualitative themes fit well together, and the elaboration of the third theme shows that bereaved individuals may benefit from a variety of self-chosen activities and distractions, not limited to (in)formal supports.</p> <p>Just a few minor questions remain.</p> <p>-You rephrased the titles of the three major themes. Please check if the titles of the themes are the same in the abstract, text, and headings. I believe that themes 1 and 2 are named differently.</p> <p>-While reading the Introduction I had the feeling that sometimes there were repetitions, or that things could be more succinct. Maybe a co-author who is less close to the manuscript can have a look at that?</p> <p>-On page 12 it is said that family members reported adverse outcomes including PTSD. Does this imply that these family members have been diagnosed with PTSD? If so, when and by whom? Or do they report stress related to the bereavement?</p> <p>-On page 23 you inserted a paragraph on the mixed-methods approach as a major strength of the study. This paragraph should be integrated in the next section: Strengths and limitations.</p> <p>Otherwise I have no further questions. If authors can deal with these final questions, I do not have to see another revised version. I look forward to seeing this in print.</p>
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## VERSION 2 – AUTHOR RESPONSE

Many thanks for revising the manuscript, which has improved substantially. The three qualitative themes fit well together, and the elaboration of the third theme shows that bereaved individuals may benefit from a variety of self-chosen activities and distractions, not limited to (in)formal supports.

Just a few minor questions remain.

-You rephrased the titles of the three major themes. Please check if the titles of the themes are the same in the abstract, text, and headings. I believe that themes 1 and 2 are named differently.

Response: These have been changed so that they are all consistent

-While reading the Introduction I had the feeling that sometimes there were repetitions, or that things could be more succinct. Maybe a co-author who is less close to the manuscript can have a look at that?

Response: The co-authors and I critically revised the introduction for repetition of information and also to condense this section further.

-On page 12 it is said that family members reported adverse outcomes including PTSD. Does this imply that these family members have been diagnosed with PTSD? If so, when and by whom? Or do they report stress related to the bereavement?

Response: Yes the participants were diagnosed with PTSD by a physician in the months after the death. This explanation has been included in the text.

-On page 23 you inserted a paragraph on the mixed-methods approach as a major strength of the study. This paragraph should be integrated in the next section: Strengths and limitations.

Response: This paragraph has now been incorporated into the strengths and limitations section.

Otherwise I have no further questions. If authors can deal with these final questions, I do not have to see another revised version.

I look forward to seeing this in print.

Thank you to the reviewer for taking the time to provide such in-depth and thoughtful comments throughout the peer review process.