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# RESEARCH

# Cognitive behaviour therapy to prevent complicated grief among relatives and spouses bereaved by suicide: cluster randomised controlled trial

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#### ABSTRACT

**Objective** To examine the effectiveness of a family based grief counselling programme to prevent complicated grief among first degree relatives and spouses of someone who had committed suicide.

**Design** Cluster randomised controlled trial with follow-up at 13 months after the suicide.

**Setting** General practices in the Netherlands.

Participants 122 first degree relatives and spouses of 70 people who committed suicide; 39 families (68 participants) were allocated to intervention, 31 families (54 participants) to control.

Intervention A family based, cognitive behaviour counselling programme of four sessions with a trained psychiatric nurse counsellor between three to six months after the suicide. Control participants received usual care.

Main outcome measures Self report complicated grief.
Secondary outcomes were the presence of maladaptive grief reactions, depression, suicidal ideation, and perceptions of being to blame for the suicide.
Results The intervention was not associated with a

reduction in complicated grief (mean difference –0.61, 95% confidence interval –6.05 to 4.83; P=0.82). Secondary outcomes were not affected either. When adjusted for baseline inequalities, the intervention reduced the risk of perceptions of being to blame (odds ratio 0.18, 0.05 to 0.67; P=0.01) and maladaptive grief reactions (0.39, 0.15 to 1.01; P=0.06).

Conclusions A cognitive behaviour grief counselling programme for families bereaved by suicide did not reduce the risk of complicated grief or suicidal ideation or the level of depression. The programme may help to prevent maladaptive grief reactions and perceptions of blame among first degree relatives and spouses.

Trial registration Current Controlled Trials

ISRCTN66473618.

## INTRODUCTION

Bereavement is associated with subsequent psychiatric morbidity. An estimated 6-15% of all bereaved people develop complicated grief<sup>1</sup> initiated by the death of someone close to them. Complicated grief is characterised by symptoms such as avoidance of reminders

of the dead person, purposelessness, subjective sense of detachment, yearning, disbelief, and bitterness related to the death. Symptoms last for at least two months and cause considerable impairment in social, occupational, or other important areas of functioning.<sup>2</sup> Complicated grief is associated with long term dysfunction<sup>3</sup> and suicidal ideation.<sup>45</sup>

According to cognitive behaviour principles three interacting processes play a role in the maintenance of complicated grief: lack of integration of the loss with existing knowledge, maladaptive beliefs and interpretations, and avoidant behaviours. Cognitive behaviour therapy can help by exploring, articulating, and challenging the reality of the loss. Several studies have shown that such therapy has beneficial effects in the treatment of complicated grief.

People who are bereaved by suicide are even more vulnerable to psychiatric effects, 1011 and effective help for this group is required. 10 12 13 The benefits of interventions to prevent a poor outcome of bereavement are controversial but have been shown in individuals1 and family systems14 at risk of adverse health consequences after a loss. Previous studies, however, have had problems such as failure in random assignment to treatment groups, small sample size, failure to use outcomes specific to bereavement, low adherence, and lack of a theoretical foundation for the intervention.<sup>13</sup> The efficacy of theoretically founded interventions for those bereaved by suicide should be examined in empirically sound research. 12 13 15 In a randomised controlled trial, we examined the effectiveness of family based cognitive behaviour grief counselling to prevent complicated grief.

#### **METHODS**

## Sample recruitment

We included first degree relatives (aged>15 years) and spouses of people who had committed suicide between 1 September 1999 and 1 January 2002 in the northern part of the Netherlands (1685 463 inhabitants). <sup>16</sup> Coroners reported cases of suicide to the research team and provided data on age and sex, date of death, and name of general practitioner. We wrote to the general

practitioners to ask them to mediate between bereaved families and the research team for participation. Exclusion criteria were relatives' lack of fluency in Dutch or imprisonment, or both. If relatives were mentally ill, their eligibility to be approached was left to the discretion of the general practitioner of the dead person. Relatives used a response form to express their willingness to participate. Cases were closed only after explicit rejection or agreement, either through the general practitioner or the relatives themselves. We collated reasons for relatives' refusal through the general

Suicides in study region during recruitment phase (n=401) Notified by local coroner (n=275) Excluded (n=39): General practitioner unknown (n=26) Date of death unknown (n=4) Sex and/or age unknown (n=9) General practitioners approached (n=236 suicides) Relatives not approached (n=58): Relatives unknown/untraceable (n=24) Dead person had no relatives (n=11) General practitioners refused to take part as they were being blamed by the family (n=5) Dead person was detainee (n=3) Family cast doubts on cause of death (n=1) Case was brought before a criminal court (n=1) Family too problematic according to general practitioner (n=13) Eligible according to general practitioner (n=178 families) Approached by general practitioner (n=166 families) Refused (n=92 suicides): Family refusal reported by general practitioner (n=63) Refusal reported by families (n=29) Informed consent obtained (n=74 families) Baseline assessment at 2.5 months (n=138 participants) Excluded (n=4 participants): Age <16 years (n=1) Incomplete baseline data (n=3) Randomisation of family Control Intervention 41 families (74 participants) 33 families (60 participants) Lost to intervention (2 families): Lost to follow-up (2 families): Refusal because of geographic objection Wished to leave trouble behind (2 participants) (2 participants) Removed (2 participants) Untraceable (1 participant) Unable to arrange sessions within Reason unknown (3 participants) prescribed timeframe (2 participants) Family sessions 39 families (68 participants) Follow-up at 10.5 months Follow-up at 10.5 months 39 families (68 participants) 31 families (54 participants)

Flow of participants though trial. At 10.5 months 67 in intervention group and 53 in control group were interviewed with the traumatic grief evaluation of response to loss (TRGR2L)

practitioners or from comments on returned forms. Full details have been published elsewhere. <sup>10</sup> Participants all gave written informed consent.

#### Sample size

We considered that a difference of 0.6 SD in complicated grief scores between the two groups would be clinically relevant. To detect such difference with 80% power and a two sided significance level of 0.05 in an unclustered design we needed a sample size of 88. With an estimated intracluster coefficient of 0.1 and a mean cluster size of two, the inflation factor to account for clustering within families was 1.1 yielding a required sample size of 97. To account for 25% dropout, we conservatively aimed to include 125 participants.

#### Assignment

Families were randomly allocated to attend a grief counselling programme or to receive care as usual. We used randomisation lists, stratified for sex and age group ( $\leq$ 35, 36-65,  $\geq$ 66) of the dead person, with randomly permuted blocks of 20 allocation codes to assign to either condition. The numbers were concealed from the counsellors, and an independent secretary administered the procedure. Randomisation was performed when the first consent form was received from a participating family. Counsellors and families were informed of the allocation outcome only after relatives completed baseline assessments.

#### Treatment conditions

Two experienced psychiatric nurses, with experience of a wide range of mental disorders and suicidal behaviour and familiar with dealing with suicidal behaviour, were trained in cognitive behaviour therapy. Each family was counselled by one nurse. With an interval of two to three weeks, four sessions of two hours were planned at the families' homes at three to six months after the suicide. We chose this time frame to intervene before negative beliefs became fixed. The programme addressed problems of the complete family system rather than individual members of the family,14 irrespective of the number of attendees per family. The counselling programme aimed to offer relatives a reference frame for their grief reactions, engage emotional processing, enhance effective interaction, and improve problem solving. Participants used a manual with information on suicide and bereavement after suicide, homework, a bibliography, and addresses for additional help. Issues were discussed in four sessions of two hours each; urgent problems were handled first.

The final content of the sessions was established in the first session in agreement with the family. Fixed topics offered in modules included cognitive restructuring in the first session and consolidation of support in the second. Optional topics and modules included grief in children and adolescents, family grief and communication, improving problem solving, and intrusive visions and thoughts. During the remaining sessions, the optional modules were discussed and handed out as required to the relatives or on the recommendation of the nurse counsellor. With agreement, sessions were audiotaped to monitor counselling concepts and for supervision.

#### Outcome measures

We carried out baseline assessments 2.5 months after the suicide to prevent high refusal rates caused by acute distress and potential response bias. We scheduled follow-up after 13 months rather than 12 months to avoid effects of the anniversary of the death on levels of symptoms.

Our primary outcome was self reported complicated grief, measured with the inventory of traumatic grief. This inventory yields scores ranging from 29 to 145 and measures experiences of complicated grief in a scale format. Higher scores indicate a higher risk of complicated grief. Secondary outcomes were

Table 1 | Baseline sample characteristics of those who committed suicide and their relatives (respondents). Figures are numbers (percentages) unless stated otherwise

	Intervention	
	group*	Control group†
Mean (SD) age of dead person (years)	44 (17.1)	46 (15.2)
Men among those who died	27 (69)	26 (84)
Mean (SD) age of respondent (years)	43 (13.7)	43 (13.5)
Men among respondents	28 (41)	12 (22)
Relationship to dead person:		
Spouse	21 (31)	15 (28)
Parent	21 (31)	8 (15)
Child	11 (16)	16 (29)
Sibling	12 (18)	9 (17)
In laws/other	3 (4)	6 (11)
Median (range) duration (years) of relationship	29 (3-50)	28 (1-58)
Marital status of respondent:		
Single	5 (7)	6 (11)
Divorced	3 (4)	7 (13)
Cohabiting/married	33 (49)	27 (50)
Widowed	23 (34)	14 (26)
Other	4 (6)	0
Had lived with deceased	32 (47)	16 (30)
Level of education of respondent:		
High	24 (36)	23 (43)
Middle	22 (33)	18 (34)
Low	20 (30)	12 (23)
In paid employment	37 (54)	26 (48)
Participants per family:		
1	22 (58)	19 (61)
2	9 (24)	5 (16)
3	5 (13)	2 (7)
≥4	2 (5)	5 (16)
Felt need for help	48 (73)	38 (71)
*68 participants, 39 families. †54 participants, 31 families.		

depressive symptoms during the past week, assessed with the Center for Epidemiologic Studies depression scale (CESD), ranging from 0 to 60, <sup>18</sup> and suicidal ideation in the previous month assessed by four questions by Paykel et al, with scores ranging from 4 to 20. <sup>19</sup> We examined perceptions of being to blame for the suicide by self constructed questions: "I think I could have prevented the suicide," "I feel guilty," and "I'm wondering what I did wrong," rated on a five point Likert scale (1=totally disagree, 5=totally agree). Scores were summed to give a range of 3 to 15; higher scores indicating stronger perceptions of being to blame.

At follow-up trained nurses who were not involved in the counselling sessions individually interviewed relatives were at home using the traumatic grief evaluation of response to loss (TRGR2L).20 This is a semistructured clinical interview assessing the presence of distinctive maladaptive grief reactions based on the consensus criteria for complicated grief, such as avoidance, disbelief, bitterness, and feeling purposeless. We scored frequency (0=never, 4=always) and intensity (1=not at all, 4=extremely) of maladaptive grief reactions. We diagnosed a maladaptive grief reaction if both the frequency and intensity of a reaction were equal to or higher than 3. Subsequently, we transformed scores to a dichotomous format (0=no, 1=yes) as the distribution of the maladaptive grief scores was highly skewed. The presence of maladaptive grief reactions was defined as at least one positive response. Interviews were performed at follow-up only as we assumed that it takes some time to develop maladaptive grief reactions. Participants reported any sources of help other than the trial intervention that they used during the first year of bereavement.

#### Statistical analyses

As the distributions of suicidal ideation and perception of blame were skewed, we dichotomised them at the 80th centile (>8 and >9, respectively) before the effectiveness analyses. We assessed the validity and reliability of the blame items by principal component analysis and calculation of Cronbach's  $\alpha$ . We used t tests to compare means of normally distributed continuous variables and  $\chi^2$  tests to compare dichotomous variables. Analyses of the effect of intervention were on an intention to treat basis. Regardless of the number of sessions attended and their content, we assessed the effect of grief counselling by analysis of covariance, comparing follow-up scores in the two groups, adjusted for participants' differences at baseline.<sup>21</sup> Results are presented as mean differences between the groups. For dichotomous outcomes, we used logistic regression with the baseline value as a covariate, yielding odds ratios expressing the odds of the outcome in the intervention group relative to the control group. In additional analyses we adjusted for possibly relevant baseline imbalances using linear and logistic regression models. All results are presented with 95% confidence intervals. We calculated robust standard errors to adjust for clustering of variables by family.<sup>22</sup> Sensitivity analyses, dichotomising suicidal ideation

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Table 2 | Unadjusted bereavement outcomes over study period according to allocation to cognitive behaviour counselling

	Baseline (2.5 mont	Baseline (2.5 months after suicide)		10.5 month follow-up (13 months after suicide)	
	Intervention*	Control†	Intervention*	Control†	
Mean (SD) traumatic grief score	78.8 (21.2)	74.6 (20.9)	69.9 (23.1)	66.5 (23.8)	
No (%) with maladaptive grief reactions‡	NA	NA	15 (22)	17 (32)	
Mean (SD) depression score	20.6 (12.3)	24.4 (12.5)	14.2 (11.4)	13.3 (12.6)	
No (%) with suicidal ideation	16 (24)	11 (20)	12 (18)	9 (17)	
No (%) with perceptions of being to blame	22 (32)	13 (24)	10 (15)	12 (22)	

NA=not available.

and blame with different cut offs, were carried out to determine whether the choice of cut off changed the findings. We calculated the numbers needed to treat for the adjusted odds ratios of maladaptive grief reactions and blame and performed analyses in SPSS 12 and Stata 8.2.

#### **RESULTS**

The figure shows the flow of participants through the trial. Of all suicides that occurred in the catchment area during recruitment,16 69% were reported to the research team by coroners. The main reason for families refusing to take part was the wish to put the event behind them, although it remained unclear to what extent this was coloured by the general practitioner's perception. Initially, the subjective variety in the extent to which general practitioners were prepared to mediate was striking, though explanation and advice often convinced them to broach participation. General practitioners still often seemed reluctant to discuss the suicide and participation with the bereaved family. Doubts on their part to invite the family were not correlated with their age, sex, or number of years in their roles. However, those whom the research assistant considered to be more familiar with suicidal ideation seemed to have fewer objections to approaching the family.

The sex distribution of the dead people whose families were included reflected the sex distribution of suicides in the Netherlands. Families of people who were under 36 years when they died were well represented in the study (35% v 23% nationally;  $\chi^2=4.6$ ; P=0.05) as were families of men in that age group (84% v 72% nationally;  $\chi^2$ =4.5; P=0.05). 16 Five parents, five siblings, and two children withdrew. They did not differ in terms of sex (4/12 men withdrew v 40/122 men completed the study; P=0.97) and age (mean 44.2 (SD 14.5) years in those who withdrew v 43.0 (13.6) in those who completed the study; P=0.79). People who withdrew showed a somewhat more favourable profile than those who completed the study (14.4 (SD 9.5) v 22.3 (12.5) (P=0.019) for mean baseline level of depression; 68.8 (16.3) v 76.9 (21.1) (P=0.13) for complicated grief score; 1/12 (8%) v 35/122 (29%) (P=0.26) blamed themselves; and 2/12 (17%) v 27/122 (22%) (P=0.40) had suicidal ideation).

#### Sample characteristics

Table 1 shows the baseline characteristics of the study population. There were no material differences between the groups except for sex of respondent, relationship to the dead person, and proportion who shared the household with the dead person (table 1). In additional analyses we adjusted for these variables. Relatives in the intervention group attended between from one to seven counselling sessions (median 4; 95% confidence interval 3.7 to 4.2). In 11 families, slightly more sessions were needed to complete the counselling programme.

#### Bereavement course

Cronbach's  $\alpha$ =0.77 indicated that the questions regarding blame were reliable and valid (one component accounted for 68.4% of the variance). Table 2 shows the bereavement outcomes during the study. The intervention did not qualitatively affect help seeking behaviour during the first year of bereavement: 36/68 (53%) participants in the intervention group and 27/54 (50%) in the control group received primary health care, 24/68 (35%) and 17/54 (32%) received mental health care, and 33/68 (49%) and 29/54 (54%) received other kinds of help. Nobody in the intervention group and 16/54 (30%) in the control group received no help.

Counselling had no effect on complicated grief (table 3). Maladaptive grief reactions, however, were substantially less common in the intervention group and the difference was almost significant after we controlled for baseline inequalities. Counselling also had no significant effect on the level of depression or the presence of suicidal ideation. A cut off of >7 (78th centile of suicidal ideation) gave unadjusted and adjusted odds ratios of 1.38 (95% confidence interval 0.48 to 3.98; P=0.55) and 0.58 (0.17 to 2.0; P=0.39), respectively. For a cut off of >9 (86th centile) these figures were 0.55 (0.16 to 1.93; P=0.35) and 0.58 (0.16 to 2.0; P=0.39), respectively. The intervention strongly reduced perceptions of being to blame, although this effect became significant only after we adjusted for baseline inequalities. The unadjusted and adjusted odds ratios were 0.33 (0.11 to 1.0; P=0.05) and 0.28 (0.08 to 0.98; P=0.05), respectively, for a cut off of >8 (74th centile of blame score), and 0.28 (0.07 to 1.12; P=0.07) and 0.19 (0.04 to 0.78; P=0.02) for a cut off of >10 (90th centile). The numbers needed to treat to

<sup>\*68</sup> participants, 39 families.

<sup>†54</sup> participants, 31 families.

<sup>‡</sup>Assessed in 67 in intervention group and 53 in control group.

Table 3 | Effect of cognitive behaviour grief counselling on bereavement outcome at 13 months after suicide\*, adjusted for clustering of symptoms within families†

	Differences	Differences in mean values or odds ratios‡ for binary outcomes				
	Unadjusted	P value	Adjusted§	P value		
Complicated grief	-0.16 (-5.51 to 5.18)	0.95	-0.61 (-6.05 to 4.83)	0.82		
Maladaptive grief reactions¶	0.44 (0.18 to 1.12)	0.09	0.39 (0.15 to 1.01)	0.056		
Depression	3.09 (-0.75 to 6.93)	0.11	1.97 (-1.65 to 5.60)	0.28		
Suicidal ideation	0.95 (0.31 to 2.95)	0.93	1.08 (0.33 to 3.57)**	0.89		
Perceptions of being to blame	0.32 (0.09 to 1.08)	0.07	0.18 (0.05 to 0.67)**	0.01		

<sup>\*</sup>Adjusted for baseline value using analysis of covariance; negative continuous values indicate a lower mean outcome value for counselling group. †Continuous measures stated in regression coefficients, dichotomous measures in odds ratios.

prevent maladaptive grief reactions and perceptions of blame were  $6~(4~to~\infty)$  and 6~(5~to~16), respectively.

#### DISCUSSION

A family based cognitive behaviour grief counselling programme offered to first degree relatives and spouses of people who had committed suicide had no beneficial effect on complicated grief reactions, suicidal ideation, and depression 13 months after the event. We did, however, see a trend towards reduced perceptions of being to blame for the suicide and fewer maladaptive grief reactions in the intervention group than in the group allocated to care as usual. As our sample was heterogeneous, we consider these results can be generalised to various relationships and ages.

The mild beneficial effect of our counselling programme on maladaptive grief reactions and blame might be the result of reduced negative cognitions and avoidant behaviours. This might, in turn, have improved family problem solving, as previously found by Kissane et al in a study among naturally bereaved families. Further, our programme may have prevented feelings of guilt and unfavourable perceptions concerning the index suicide.

Having a chance in counselling to reflect on and acknowledge their loved one's difficulties before the suicide may have helped relatives to realise that they did nothing wrong. Informing relatives of the psychiatric context of suicidal behaviour might have challenged their perceptions of guilt and self blame. Thus, this counselling programme can help to relieve the

#### WHAT IS ALREADY KNOWN ON THIS TOPIC

Relatives of people who killed themselves may have particularly difficult grief reactions and need specific help

Cognitive behaviour therapy is useful for the treatment of complicated grief

## **WHAT THIS STUDY ADDS**

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A family based cognitive behaviour grief counselling programme, offered to close relatives and spouses of people who killed themselves, did not prevent complicated grief reactions 13 months after the event

The intervention reduced maladaptive grief reactions and perceptions of being to blame The results extend over a wide range of relatives' ages and relationships to the dead person burdens associated with bereavement after suicide.  $^{1223}$  Yet the risk of complicated grief was not reduced, despite the belief that negative cognitions are critical to its maintenance. The intervention might counteract some of the adverse effects of suicide on the process of bereavement: 32% of relatives in the control group and 22% in the intervention group had maladaptive grief reactions at follow-up (see table 2). This proportion is remarkably close to a 20% prevalence of complicated grief at 13 months in naturally bereaved people. Our intervention may therefore reduce the level of grief to that seen among naturally bereaved people.

## Limitations

One potential limitation is the considerable number of families that refused to take part. Efforts to recruit families could not depend on the severity of symptoms as this was unknown before inclusion. Additionally, monitored audiotapes did not suggest selection bias with regard to family functioning. People who did not complete the study showed lower levels of complaints than those who did, though because of the low numbers in both groups we consider this unlikely to have introduced bias.

#### **Future studies**

The notion that grief counselling is more effective for people at high risk could be examined by studies large enough to allow analysis of subgroups according to risk.113 Subsequent research could examine whether prevention of negative beliefs results in improved family functioning and explore the mechanisms responsible for the maintenance of complicated grief.<sup>6</sup> Additionally, future investigations could look at the effectiveness of cognitive behaviour therapy and the course of long term bereavement in people with and without negative beliefs 13 months after a suicide. Studies of different prevention strategies aimed at this high risk population might determine the best way to reduce the risk of suicide among people bereaved by suicide. Broadening the counselling programme by including strategies targeting depression or possible suicidal ideation might be reasonable because skills to concentrate on counselling (reading, exercising,

tOdds of outcome in intervention relative to odds in control group with adjustment for baseline value of outcome variable.

<sup>§</sup>Adjusted for respondents' sex (male); having lived with person who died; closeness of relationship (a priori).

<sup>¶</sup>Assessed of 67 in intervention group and 53 in control group.

<sup>\*\*</sup>Additionally adjusted for baseline depression.

# discussing issues) might be adversely affected by depression, resulting in lower treatment response.<sup>24</sup>

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Contributors: MdeG planned and coordinated the study, drafted and edited the self help manual, was responsible for data collection and management, worked out statistical analyses, interpreted results, drafted the manuscript, and is guarantor. JdeK advised in study design, measurement, treatment, and the content of the self help manual, trained and supervised the counsellors and interviewers, and assisted in the interpretation of the results. JN masterminded the study design and obtained funding. AK and WN critically reviewed the manuscript and approved the final draft. HB advised in statistical analyses, critically reviewed the manuscript, and approved the final draft.

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