Post-traumatic stress disorder in a Danish population of elderly bereaved

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The objectives of this study were to examine psychological sequelae of loss of a spouse in late life especially the occurrence of post-traumatic stress disorder (PTSD) and possible predictors of PTSD and symptom development. Fifty-four bereaved Danes (mean age 75 years) from five geographically different areas were studied by the Harvard Trauma Questionnaire (HTQ), the Trauma Symptom Checklist (TSC), and the Crisis Support Scale (CSS). One month after the loss, 27% of the subjects had PTSD. Six months after the loss, this number decreased to 17% if the A2 criterion was dismissed, the number increased to 24%. Lack of expressive ability, numbing, fear of death or illness, and helplessness in relation to the loss predicted 73% of the variance of the HTQ-total scores. The study concluded that for a considerable number of elderly, losing a spouse in late life appeared to be a traumatic experience. Pre- and peritraumatic factors together with numbing were important predictors of traumatization. Research implications are discussed.

Key words: Elderly bereaved, PTSD, peritraumatic factors, social support, symptoms.

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INTRODUCTION

While extremely violent experiences, such as floods and earthquakes, possibly trigger post-traumatic stress disorder (PTSD) in the elderly (Ruskin & Talbott, 1996; Black, Newman, Harris-Hendriks et al., 1997; Averill & Beck, 2000), more predictable stressors, such as loss of physical integrity or the death of a spouse in late life, are perceived as “Nontraumatic Age-Related Stressors” (Averill & Beck, 2000, p. 149), leading to the conclusion that, “although these life events are clearly stressful . . . [they] do not approximate traumatic stressors” (ibid., p. 150). Bereavement in late life generally has been considered a stressful, but not a traumatic experience (Ruskin & Talbott, 1996). The most common studied sequelae are grief, “complicated” grief, and depression (Prigerson & Frank, 1995; Horowitz, Siegel, Helen et al., 1997; Stroebe, van Son & Stroebe, 2000). Even in the large longitudinal US study of bereavement in the elderly, “Changing Lives of Older Couples” (CLOC), with over 3000 variables “that cover every aspect of social, psychological, and physical functioning of older adults”, PTSD is not included (www.cloc.isr.umich.edu/index.htm).

Loss of a spouse is an event that satisfies the PTSD stressor criterion A of the DSM-IV (American Psychiatric Association, 1994) that states that the person experienced, witnessed or was confronted with an event combined with feelings of fear, helplessness, or horror that involved actual death. ICD-10 (World Health Organization, 1993), on the other hand, does only recognize death as a stressor that might result in PTSD if there is evidence that the event was of exceptional severity. In this situation where two diagnostic systems vary, empirical evidence becomes very important. In a study of elderly bereaved (Lund, Caserta & Dimond, 1993), 72% reported that the loss of the spouse was the most stressful event in their lives. Several findings indirectly support the hypothesis that the elderly bereaved can be at risk of developing PTSD as the result of losing a spouse in late life. One study (Mellström, Nilsson, Odén, Rundgren et al., 1982) found that the mortality rate in widowers at age 70–74 years was 48% higher than it was for married men or bachelors in the same age group. For widows in that same age group, the mortality rate was 22% higher. Similar results are reported by Goldman, Korenman and Weinstein (1995) and Rogers (1995).

Besides the increased mortality rate, there is a higher percentage of several mental indicators showing that losing a spouse in late life can be an extremely stressful experience. The elderly bereaved have more visits to their general practitioner, hospital admissions, medicine use, and general physical symptoms than found in the same age group of married elderly or elderly who have never married (Parker & Brown, 1972; Clayton, 1974). The elderly bereaved also evaluate their physical and mental well-being lower than others in the same age group and have a higher level of depression and distress (Raphael, 1977; Ronne, Knudsen & Rasmussen, 1988; Bonde Nielsen, 1993; Gilbar & Ben-Zur, 2002). In most cases these tendencies are more pronounced in widowers compared with widows (Ronne et al., 1988; Wisocki, 1998; Gilbar & Ben-Zur, 2002).

Social support

Social support is generally considered a buffer against traumatization – people who have a social network that provides...
a satisfactory social support will be less adversely affected than people who are not satisfied with their social support (Cobb, 1976; Rubenstein, Lubben & Mintzer, 1994; Joseph, Williams & Yule, 1997; Elklit, Pedersen & Jind, 2001). In the elderly population, social support also seems to have a positive effect in relation to mental well-being (Olsen, 1982; Jackson & Antonucci, 1992; Prince, Harwood, Blizard et al., 1997).

Findings suggest that the social support received by the elderly from close friends often has a more positive effect than social support received from family members (Jackson & Antonucci, 1992; Wisocki, 1998). One possible explanation is that the closest family, often children and grandchildren, also are strongly affected by the loss and, thus, are not able to lend enough support. Another explanation in conjunction with the first explanation is that the bereaved person does not want to burden children or grandchildren with personal problems in his or her time of grief.

**Predictability of the loss**

Another general assumption is that the predictability of the loss may reduce the extent of psychological symptoms following the loss. Some studies show that the older a person is the less extreme he or she reacts to losing a spouse (Grimby, 1993; Stuart-Hamilton, 1994). Other studies find different or even opposite conclusions. One study finds that the number of losses (of spouse, physical health, strength, etc.) correlates positively with the extent of stress-related symptoms (Pearlin & Mullan, 1992). A second study finds that losing a spouse after a period of terminal illness results in more or less the same extent of symptoms as loss by sudden, unexpected death (Ronne et al., 1988). A third study (Bonde Nielsen, 1993) also finds that the symptom level is the same whether the spouse dies suddenly or after a period of terminal illness, but adds that the high symptom level of stress in the elderly with terminally ill spouses is apparent from the time the terminal diagnosis is given. Carr, House, Wortman, Nesse & Kessler (2001) found that sudden spousal death in the elderly bereaved was associated with survivor’s elevated intrusive thoughts 6 months later, while prolonged forewarning was associated with elevated anxiety both 6 months and 18 months after spousal loss.

**Fear of own death**

To be able to live without too much anxiety, we generally repress the knowledge of our own mortality. When we are confronted with the death of a significant other, it is no longer possible to repress this knowledge. So, when people close to us die, their death may underline the fact that we ourselves are not immortal and that death will come to us some day (Yalom, 1980). In general, elderly people are nearer death than younger people. If an old person has not come to terms with the fact that death is approaching, a loss, when it comes, could result in severe fear of death or serious illness and activate a range of psychological symptoms.

In many cases, generally speaking, there are several indicators that the elderly bereaved are quite distressed by the loss of their spouse – men more than women – and that quality of social support, predictability of the loss, or fear of own death in connection to the loss may have an effect on the outcome. Various forms of grief and depression rates have commonly been investigated in the past, while PTSD, perhaps due to the normative DSM-III-R stressor criterion, seems to be almost absent as a research paradigm among the elderly bereaved. To us it is regrettable if the exploration of bereavement sequelae should be limited for theoretical reasons, and not primarily be a question of empirical evidence. There are two exceptions to this; Zisook, Chentsova-Dutton & Shuchter (1998) studied 350 widows/widowers (mean age 61 years) two months after the death of the spouse; 10% of the population were classified as having PTSD. This figure decreased to 4% after one year. However, the study was based on post hoc diagnostic impressions and a number of items from the Hopkins Symptom Checklist (HSCL) that “resembled as much as possible the clinical domains of traumatic recollections, numbings and avoidance, and hyperarousal”. The results should be viewed as preliminary, as the study was not designed to diagnose PTSD or quantify its prevalence, the criterion for PTSD was an approximation only and no psychometrically validated instruments were used (ibid., p. 162).

Another study suggesting that PTSD should be included as one of the possible complications of bereavement is Schut, de Keijser, van den Bout & Dijkhuis (1991), who studied a Dutch population of 281 conjugal bereaved persons (mean age 54 years) by means of a non-published 95-item self-report measure, that covered all PTSD symptoms but psychogenic amnesia and hypervigilance. The reliability measures for the PTSD subscales and the total scale are very satisfying. The study was prospective, measuring PTSD at 4, 11, 18 and 25 months after the bereavement. However, exact numbers for PTSD at the occasions are not given. PTSD varies from 20–31% during the 2-year period, reaching a peak after 11 months, due to an increase in avoidance symptoms. Arousal symptoms range from 25–35%. Half of the population had PTSD on at least one occasion; 9% had PTSD on all four occasions. Although neither of the two studies apply a proper PTSD measure, both studies bring evidence that PTSD is a common phenomenon among conjugal bereaved in late adulthood. To our knowledge, PTSD has never been examined in a population of elderly (65+ years) bereaved. The current study was designed as a prospective pilot study with the following purposes: (a) to estimate the frequency of PTSD and symptom level in the elderly bereaved at one and six months after bereavement; and (b) to examine the relationships among the experiences of the recent loss, demographic variables, previous trauma in life, social support, predictability of the loss, PTSD and symptom levels.

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METHOD

Subjects
The data in this study were collected from a questionnaire survey of 55 recently bereaved Danish elderly, aged 51–93, with an average age of 74.6 years (SD = 7.8); 64% of the subject were females (35 persons) and 36% were males (20 persons). The average length of the marriage had a median of 50 years with a variation of 25–61 years.

Procedures
The study follows the Ethic Code of the Nordic Psychologists. In approaching the bereaved, municipality authority lines had to be followed. The study was (a) introduced through a letter to 25 mayors around the country explaining the purpose and procedures of the study; Five municipalities representing very different geographical areas with city and rural populations agreed to participate in the study; (b) if the local authority agreed to participate in the study, the municipality social worker in charge of the elderly's care received the same information as the mayor; (c) the first questionnaire, by choice of each municipality authority, was delivered either by mail or by health visitors who paid home visits to the elderly bereaved one month after the death of their spouse; (d) the bereaved received a letter expressing deepest sympathy followed by a short description of the study together with a questionnaire. The letter further outlined anonymity, voluntarity, and the possibility of getting further assistance, in case the participation resulted in negative problems. (e) Half a year later the subjects received another letter with a follow-up questionnaire enclosed thanking them for participating. (f) After finishing the study, each respondent received a short summary of the results. The response rate was 43% of all elderly bereaved in the five areas during a 3-month period. The response rate for the follow-up study was 55%. A comparison between respondents and non-respondents at the follow-up, on demographics, peritraumatic, trauma history, degree of traumatization, social support, and symptoms, revealed only one difference: the non-respondents had a higher number of previous traumas (χ² = 3.9; df = 1; p < 0.05).

Data analysis
The distribution of the data was translated through percentages, means and standard deviations. Nominal variables were compared with the χ² test. Correlations were estimated with Pearson's correlation coefficient. Demographic, treatment and life event variables were analyzed in relation to all scales with one way ANOVA. Pairwise, sample t-tests were used to assess changes in scaled variables over time. Multiple linear regression analysis is used to assess the effect of predictor variables to the HTQ total scores. A 0/1 (no/yes) coding was used for dichotomous variables. The analyses were performed by means of SPSS-PC, version 9.0.

Measures
The first part of the questionnaire contained a number of demographic questions regarding age, sex, number of years married, education, number and gender of children, terminal illness in spouse (yes/no) and, in case of terminal illness, length and amount of distress (measured on a 7-point Likert scale) experienced. This was followed by questions connected to the death such as forewarning of death (yes/no), the amount of distress caused by the death, the degree of fear of own death or illness experienced by the death, the amount of helplessness or powerlessness experienced (three 7-point Likert scales), and the presence (or absence) of family members or friends at the time of death. Also included was one open question about the worst experience in connection with the loss.

The next part included a list of 12 questions about traumatic events ever experienced by the subject. This list was taken from the Kessler, Sonnega, Bromet et al. (1995) study – experiencing combat and natural disasters were excluded, as fortunately these events are not relevant in a Danish context.

The Crisis Support Scale (CSS) (Joseph, Andrews, Williams et al., 1992) measures social support after a traumatic event. The seven questions (7-point Likert scale) relate to perceived available support, practical help, and emotional support of caretakers other bereaved, ability to express thoughts and emotions related to the loss, the degree to which one feels let down, and general satisfaction with social support. The scale has good psychometric qualities (Elklit et al., 2001).

The Harvard Trauma Questionnaire-Part IV (HTQ) (Mollica, Caspi-Yavin, Bollini et al., 1992) estimated the occurrence of PTSD following the death of the spouse. HTQ consists of 30 items (4-point Likert scale; 1 = not at all; 4 = very often); one item was added regarding feelings of guilt for something done or something omitted. Sixteen of the items relate to the three core symptoms in PTSD in DSM III-R: avoidance, re-experiencing, and hypervigilance (American Psychiatric Association, 1987). Only scale items 23 were counted toward a PTSD diagnosis. Mollica et al. (1992) found the scale reliable and valid. Self-report measure of PTSD had 88% concordance with interview-based estimates of PTSD (ibid.). Current scale reliability values are in Table 1.

The Trauma Symptom Checklist (TSC) (Briere & Runtz, 1989) originally consisted of 33 items. Two additional items were added to the one used in this study to enhance concordance with other symptom checklists (Elklit, 1990). Because of the subjects’ recent loss, three items relating to sexual activity were removed, so the version of TSC used in this study consists of 32 items. TSC measures dissociation, hostility, and interpersonal sensitivity (Briere & Runtz, 1989; Elklit, 1990). Current scale reliability values are in Table 1.

RESULTS
The subjects’ average education numbered 9.2 years (SD = 3.3), ranging from 7 to 22 years. The average number of children was 2.9 (range = 0–9). Eighty-three percent had experienced a considerable period of spouse illness (average = 3.8 years; median = 2.0 years; ranging from 2 to 25 years). The distress of caretaking experienced during the illness was 5.7 on the Likert Scale (7 = a great amount; SD = 1.6). Seventy-two percent had a forewarning of the coming of the death. The distress associated with the death averaged 5.5 on the Likert Scale (SD = 1.7). Fear of own death or serious illness was 2.8 (SD = 1.8) on the Likert Scale, (between “not at all” and “some degree”). The degree of helplessness felt associated with the death averaged 3.8 (SD = 2.3) – close to the scale mid-point of 4. Scores higher than 4 on one or both of the two latter items constituted the A1 stressor criteria of the PTSD diagnosis.

Eighty-nine percent had family or friends present or nearby at the time of death. The worst experiences reported in relation to the death were loneliness, yearning, seeing spouse's
suffering, the suddenness of death, fear of the future, helplessness and emptiness. In response to the list of life traumas, 69% reported earlier losses of loved ones, 19% had experienced accidents or fires, and 13% mentioned other traumas. Table 1 describes the range, average, standard deviation and the internal consistency ($\alpha$) of the HTQ, TSC and CSS scales 1 month and 6 months after the loss. The relative scores in the following paragraphs are calculated by dividing the average with the number of items within each subscale. The relative scores at 6 months after the loss are shown in brackets.

### HTQ

The relative score for the intrusion subscale was 2.24 [2.15]; the avoidance subscale = 1.65 [1.68]; the hypervigilance subscale = 2.00 [2.14]. At one month, the level of intrusion was higher than the level of hypervigilance, while the level of avoidance was somewhat smaller. A $t$-test revealed no significant differences between the results 1 month and 6 months after the loss on any of the HTQ scales, nor were there any gender differences.

### TSC

The relative score for the TSC subscales were: depression = 1.74 [1.54]; anxiety = 1.30 [1.25]; dissociation = 1.36 [1.26]; sleep disturbances = 1.90 [1.70]; somatization = 1.44 [1.36]; interpersonal sensitivity = 1.50 [1.28]; and hostility = 1.06 [1.03]. Sleep disorders were the most common symptoms, followed by depression. The internal consistency (Table 1) was very good for the total score and acceptable for the subscales, with the exception of interpersonal sensitivity and hostility, where the values are unacceptable. According to a $t$-test, there were no significant differences in any of the subscales between the first and second rounds of the study. Women had higher scores on the anxiety ($F = 6.13; p < 0.05$) and the dissociative subscales ($F = 5.23; p < 0.05$) and the total TSC-scale ($F = 4.58; p < 0.06$) after 6 months.

### CSS

Most survivors perceived that they got much sympathy and other forms of social support from the social network, and felt that they had the ability to express their feelings. There was only one significant change during the 6 months – the amount of received practical help decreased according to a $t$-test ($t = 3.57; p < 0.001$). There were no gender differences over time.

### PTSD

Table 2 shows the distribution of PTSD criteria by number and type 1 month and 6 months after the loss. One month after the loss, 93% fulfilled the intrusion criterion; 33%
met the avoidance criterion; 40% reached the hypervigilance criterion, and 69% the A2 stressor criterion. Twenty-seven percent satisfied all four core criteria of PTSD, and an additional 16% a subclinical level of PTSD (missing one criterion). Six months after the loss, 76% reached the intrusion criterion, 19% met the avoidance criterion, and 55% reached the hypervigilance criterion. Seventeen percent satisfied all four core criteria of PTSD. If the A2 stressor criterion was omitted, the number with PTSD after 6 months rose to 24%. The number of subclinical cases was 28%.

Regression analysis

A linear regression analysis was made with the HTQ total scores as the dependent variable. The HTQ total score was chosen instead of PTSD to ensure the use of the full information value of the distribution. As all of the demographic and most of the peritraumatic stressors and social support item were not associated with the HTQ total scores, the variables that had significant associations were included in the analysis. The model included four variables, that in all explained 89% of the total HTQ score ($F(4, 36) = 55.9; p = 0.0005$). The relative contribution from each variable was: lack of expressive ability ($\beta = 0.23; p < 0.001$); distress caused by death ($\beta = 0.52; p < 0.0005$); fear of death ($\beta = 0.52; p < 0.0005$), and helplessness ($\beta = 0.35; p < 0.0005$).

DISCUSSION

In a US national probability study of the effects of trauma, Kessler et al. (1995) found only small changes in the rate of PTSD after 6 months. The lack of progress in recovery could be due to a number of factors; economic and practical worries; limited social network, which might impede the cognitive and emotional processing of the loss; traumatic experiences connected with the death process, and/or the social responses related to death. Our thinking and clinical experience is very much in line with Horowitz (1991), who emphasizes the loss of central companionship that in this study has influenced the survivor’s identity, behavior and role throughout half a century.

The main hypothesis of this study was that the death of a spouse in late life in some cases might trigger a traumatic disorder in the bereaved individual, as witnessing the death of a spouse may be an overwhelming event that exceeds what the survivor was prepared for. Society holds strong norms for behavior related to trauma and loss – and the elderly bereaved are no exception. Two generations ago, one year’s mourning of spousal loss was considered appropriate, but in today’s efficient society there are few rituals guiding the survivor, recognizing the impact the death may have. This is perhaps also the reason why spousal death by some authors as mentioned in the introduction, almost per definition, is considered a non-traumatic event.

DSM-IV (American Psychiatric Association, 1994) represented an important move in focus from the traumatic event itself to the personal experience of the event – from a normative, sociological perspective to a subjective, psychological perspective. The present study gives evidence of the fact that PTSD is a common phenomenon among the elderly bereaved, as the disorder develops in one-quarter of the respondents. An important finding is the consistency in the endorsement of PTSD, the HTQ, and TSC subscale scores in the 6 months after the loss. The most pronounced symptoms were depression and sleep difficulties. Elderly people in general have higher depression levels and more sleep disturbances than younger individuals (Stuart-Hamilton, 1994). All TSC subscale scores decreased during the following 6 months, but insignificantly. The stability of distress symptoms corresponds to findings from other studies (Zisook & Shuchter, 1991; Schut et al., 1991). The consistencies in symptoms, optimistically, indicate a very slow recovery process or, pessimistically, a chronification process. The social support scores, which were indicative of a quite substantial network support, did not change significantly over a period of 6 months, a most critical period after spousal loss. The relatively high degree of social support, however, had limited impact on reducing the symptom level.

Lack of expressive ability, fear of own death or serious illness, and helplessness experienced at the time of the death predicted almost 90% of the degree of traumatization. Numbing and peritraumatic factors generally are considered essential in the development of a traumatic stress response (American Psychiatric Association, 1994). At the same time, the obligatory inclusion of the A2 criterion is responsible for a 50% reduction in PTSD cases. When the PTSD and subclinical PTSD cases are added, there is almost no difference in traumatization after 1 month (27 + 16% = 43%) and after 6 months (17 + 28% = 45%).

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Demographic variables played an insignificant role in relation to traumatization, symptom development, and social support in this group. Also, length of terminal illness and forewarning were not effective predictors of either traumatization or psychological distress. This may be due to rather long periods of preceding illness, family and friends present or nearby, and the fact that almost 90% had a forewarning of the coming of the death. Carr et al. (2001) in a large probability sample of old widowed found no effect of forewarning on depression, anger, shock or overall grief 6 months after spousal loss. They did, however, find elevated anxiety associated with prolonged forewarning and elevated intrusion associated with sudden death at the 6-month follow-up. As noted in the introduction, the Carr et al. study did not investigate the prevalence of PTSD.

For most of the respondents, the time before the spousal loss was characterized by the spouse’s prolonged illness resulting in a high level of distress. The social support appears sizeable. All the same, half of the survivors had high intrusiveness and hypervigilance levels, and a quarter met all of the four criteria of the PTSD diagnosis. The high level of hypervigilance is in contrast to Schut et al.’s (1991) study and might reflect an age difference of 20 years; that is, the bereaved in the present study may be more exhausted by having nursed the sick spouse and perhaps a stronger fear of own death. This finding supports the assumption that PTSD is a relevant area of study in the elderly bereaved. This also points to the need of intensifying the effort to assess the elderly bereaved directly on pre- and peritraumatic experiences as part of the preventive work done by health visitors, social workers and general practitioners.

Notwithstanding, these results should be treated cautiously. The generalizability is limited by the moderate response rate, the loss of respondents in the follow-up study, lack of control group, and the procedure of going through several links before reaching the subjects because of rules of professional discretion. The self-report method is also a possible bias for the emotional impact of participating in the study. This may be due to rather long periods of preceding illness, family and friends present or nearby, and the fact that almost 90% had a forewarning of the coming of the death. Carr et al. (2001) in a large probability sample of old widowed found no effect of forewarning on depression, anger, shock or overall grief 6 months after spousal loss. They did, however, find elevated anxiety associated with prolonged forewarning and elevated intrusion associated with sudden death at the 6-month follow-up. As noted in the introduction, the Carr et al. study did not investigate the prevalence of PTSD.

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