Social Support and Recovery from PTSD

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Objective: The main aim of this study was to investigate the psychological and social adjustment of parents whose adolescent children had experienced a disaster. Mediating factors were considered; such as whether the child developed post-traumatic stress disorder (PTSD), dysfunctional attitudes, other intervening life events, and especially, social support.

Method: Participants were 37 women whose adolescent children had survived the 'Jupiter' sinking in 1988. Subjects were divided into a subgroup of women (n=20) whose children had PTSD, and a subgroup (n=17) whose children did not develop PTSD. Comparison groups were widows (n=18), and women who had suffered no major negative life events (n=15). Measurements were done on the Schedule for Affective Disorders and Schizophrenia, Lifetime Version (SADS-L), the Social Adjustment Scale (SAS), and other questionnaires.

Results: Mean total scores on social support in all groups in comparison with SADS-L scores, showed a significant correlation with the post-event panic disorder and a trend of negative correlation with *all* post-event psychopathologies.

Conclusion: Results supported the hypothesis that social support was probably a protective factor for the participants in this study.

Keywords:
Child, Disaster, England, Mothers, Post-traumatic stress disorder, Social adjustment, Mental Health

Survivors of disasters are vulnerable to a variety of acute and chronic psychopathology, including post-traumatic stress disorder (PTSD) and other anxiety disorders, and depression (2- 6).

The current study investigated the psychiatric status of mothers whose adolescent children were involved in a disaster—the general hypothesis being that they would have raised levels of psychopathology. Mediating factors such as whether the child developed PTSD, dysfunctional attitudes, other intervening life-events, and social support are also considered.

In order to assess this hypothesis two comparison groups were included, a group of women who had suffered no major life event, and a group of widows, with the aim of anchoring the scale of negative life events at a severe end, i.e. death of a spouse. With these two comparison groups, the following specific hypotheses were made: the mothers whose children were involved would show higher levels of psychological distress compared with the women having no major negative life experiences, though less distress than the widows group.

The present study also attempted to look at mechanisms that may mitigate those distressing effects. Increasing attention is being turned to those factors that may mediate between a disaster and subsequent outcomes (1). The benefits of social support are well-documented. The results of many prospective studies have shown that social support following adverse life events is negatively related to psychiatric symptoms (7-9).

Lin, Simeone, Ensel, and Kuo, defined social support as support accessible to an individual through social ties to other individuals, groups, and the larger community (8).

The positive impact of social support is also significant in studies of trauma victims. For example, Joseph, Brewin, Yule, and Williams, assessed crisis support over an 18-month period with survivors of the 'Jupiter' cruise ship disaster. It was found that higher crisis support in the immediate aftermath was associated with less post-traumatic symptomatology (10).

Burgess and Holmstrom in a study of trauma victims concluded that social support is strongly associated with recovery from rape trauma (11).

There is considerable empirical evidence of the positive role of social support among victims of life-threatening diseases. In cancer patients, for example, the amount of social support at the time of diagnosis is positively associated with psychological well-being up to two years later, and even with the patient's years of survival (7).

Prospective studies have shown that social support is negatively related to psychiatric symptoms (7-9).

Lin et al. examined the effects of social support and stressful life events on illness (psychiatric symptoms). In a representative sample of the Chinese-American adult population in Washington, D.C., stressful life events were positively and social support was negatively related to the incidence of psychiatric symptoms (8).

Materials and Method

Thirty-seven British women, whose adolescent children had survived the 'Jupiter' shipping disaster , participated in the study. There was a party of UK school children on board the cruise ship 'Jupiter' when it collided another ship, the Adige, in Greek waters, and sank within 45 minutes. Fortunately, because it was at the dusk, the Athenian fishing fleet was returning to port and the crew quickly mounted a rescue operation taking off some of the children from the Jupiter before it sank, and rescuing others from the sea when the ship had gone down. One school child and one teacher, however, were unaccounted for, presumed drowned, and two of the rescuers were crushed to death during the rescue. So far as the parents were concerned back at home, the news broke after an hour or so, with some parents learning of it on the local radio station, some on the national news, and some from other parents. News of the number of survivors was vague and conflicting. Parents phoned a hotline, which was constantly engaged. One parent, at midnight, finally managed to speak to an official, only to learn that she would be contacted if her daughter was among the dead. After midnight and through the night, some parents received phone calls from their children. The following morning, the parents were told that the children would be returning that evening. Further descriptions of the incident were given in several papers (4 , 5).

Thirty-seven mothers of survivors participating in the present study were recruited in the course of a follow-up study of survivors, the methodology and results of which have been published elsewhere (12, 13). During the period of data collection for the present study, about six years after the accident, survivors were asked if they consented to their mother being contacted, and if so an invitation to this study was made. Forty-two mothers were invited to participate in the current study, and 37 consented. Mean age was 48.6 years (SD=4.5). In this group of mothers whose children were survivors of the Jupiter disaster (Group I, n=37), some had children who had been diagnosed as having PTSD in the main study (Group IA, n=20), whereas 17 mothers had children in the non-PTSD group in the main study (Group IB, n=17). This subgroup status was unknown to the interviewer (MM) at the time of assessing and rating the mothers.

Two comparison groups were taken: one group consisted of widows (Group II), since death of a spouse is recognized as a most adverse event, bearing the highest risk of depression and other pathologies (14-19). Eighteen widows, whose husbands died in the past 10 years, were recruited via widows associations and advertisements in public libraries. A second comparison group (Group III, Control) consisting of 15 married women who had not suffered any major negative life event were recruited by advertisement. All participants had lived in the UK for at least 15 years.

Some potential participants with whom the proposed research was discussed subsequently declined to take part.

The refusal rates were relatively low: Group I, 12% (n= 42); Group II, 5% (n=19); and Group III, 6% (n=16).

Instruments

The Schedule for Affective Disorders and Schizophrenia Lifetime Version (SADS-L) (20) supplemented by further questions to enable a diagnosis according to DSM-IV criteria (21) was used to assess symptomatology and the diagnostic status both pre- and post-disaster, that is, before and after October 1988. The SADS-L was administered by one of the authors (MM), a qualified clinical psychologist who was an instructor at the University of Tehran. To address the issues of diagnostic reliability and validity, transcripts were made from taped SADS-L interviews for a random sample of participants (n=18, 25%), information that would identify the group status was deleted, and the trimmed transcripts were independently rated by an experienced clinician who is a native English speaker. Kappa analysis of the overall agreement between two raters on SADS-L diagnoses was computed 0.72 (p<0.01), indicating substantial agreement (22). Kappa coefficients for each diagnosis separately were 1 for all disorders except the panic disorder, kappa = 0.85, and major depression, kappa = 0.87. Current symptomatology was also assessed by several standard self-report questionnaires: the General Health Questionnaire (GHQ-28) (23), the Beck Depression Inventory (24), and the Self-Evaluation Questionnaire (25).

Negative life events in the pre- and post-accident period were assessed for all participants using the List of Threatening Experiences (LTE) (26, 27). In this study, to measure support from family and friends, the Crisis Support Scale was used (adapted from Joseph, 1991). This version of the scale yields two scores: 1) a retrospective (Time=1, just after disaster/event) measure of crisis support (applied to mothers of children involved in the Jupiter disaster and widows but not for the control group); and 2) a (Time=2, at the time of interview) measure of crisis support (applied to all groups). This version of the scale consists of eight items concerning:

(a) the availability of others; (b) contact with other survivors; (c) confiding in others; (d) emotional support; (e) practical support; (f) negative response from others; (g) satisfaction with the support; and (h) professional help and support. Each question is rated on a 7-point scale so that higher scores indicate greater crisis support (item six is reversed coded) (10).

Procedure

Participants were interviewed either at homes or in the Institute of Psychiatry, London, at their preference. After interviews, the interviewer left the questionnaires with them and asked them to complete them at a convenient time and send them back to the investigator using an

Table 1: Rates of post-event diagnoses in all groups

Disorders	Group IA. Mothers of Survivors with PTSD (n=20)	Group IB. Mothers of Survivors without PTSD (n=17)	Group I. All mothers of survivors (n=37)	Group II Widows n=18	Group III. Control n=15
Major Depression	11 55%	5 29.4%	16 43.2%	17 94.4%	1 6.7%
Anxiety Disorder	8 40%	4 23.5%	12 32.4%	12 66.7%	0
Any Psychopathology	12 60%	8 47.1%	20 54.1%	18 100%	1 6.7%

Table 2. Current symptomatology using questionnaires for all groups

Questionnaires	Group IA. Mothers of Survivors with PTSD		Group IB. Mothers of Survivors without PTSD		Group I. All mothers of survivors		Group II. Widows		Group III. Control group	
	M	SD	M	SD	M	SD	M	SD	M	SD
GHQ	21.94	11.98	16.6	9.75	19.42	11.21	24.11	13.57	11.73	3.84
BDI	8.88	7.14	4.47	5.18	6.88	6.62	12.06	9.12	3.53	3.04
SEQ	76.11	19.67	62.47	20.84	70.45	21.22	84.83	29.06	58.33	14.01

enclosed self-addressed stamped envelope. Nine participants did not return the questionnaires. These individuals were sent a reminder letter that enclosed new questionnaires. Five of nine participants completed and sent back the questionnaires. Four of the participants never returned their questionnaires. Overall**,** 66 questionnaires were returned.

Results

Post-event diagnoses of major depression, anxiety disorder, and any psychopathology, for all groups are shown in Table 1.

Specific predictions were tested using the Chi-square or, for lower cell numbers, Fisher's Exact test. The first prediction, that mothers of survivors would have increased rates of psychopathology compared with controls, was supported in relation to major depression (p=0.01), anxiety disorder (p=0.01), and any psychopathology (p =0.002). The second prediction, that widows would have increased rates of psychopathology compared with mothers of survivors, was supported in relation to major depression (p < 0.001), anxiety disorder (p = 0.02), and any psychopathology (p =0.001). It can be seen in Table 1 that mothers of PTSD survivors had higher rates of psychopathology compared with mothers of non-PTSD survivors, but the differences did not reach statistical significance and hence the third prediction was not confirmed.

In the second set of main analyses, current symptomatology assessed using the self-report questionnaires were compared between groups. Means

and standard deviations of the groups for the GHQ, BDI and SEQ are shown in Table 2.

One-way analysis of variance for scores on all measures showed significance between group differences. Scheffé post hoc analyses (at the 5% level of significance) showed that between group differences varied from measure to measure, indicating partial confirmation only for specific predictions. The first prediction, that 'mothers of survivors would have increased symptomatology compared with controls' was not supported. The second prediction, that 'widows would have increased rates of symptomatology compared with mothers of survivors', was supported in relation to the BDI [F(2,63)=6.65, p=0.002], though only for the mothers of those non-PTSD survivors in relation to the SEQ [F(3,62)=5.01]. It can be seen in Table 2 that mothers of PTSD survivors had higher rates of symptomatology compared with mothers of the non-PTSD, on the GHQ, BDI and SEQ, but the differences did not reach statistical significance and hence the third prediction was not confirmed.

It was hypothesized that social support was a protective factor. Spearman correlation analysis results are shown in Table 3. The mean of social support scores was calculated by computing the sum of social support at the time of interview and the social support just after the disaster/event divided by two. As there are no scores for the control group regarding the time just after the disaster/event, the total social support scores at the time of interview was used as the mean of social support. The Spearman correlation coefficient of the social support with the BDI, GHQ, Self-evaluation Questionnaire (SEQ),

Table 3. Social Support in the four groups

Groups	SS after		SS L2W		SS mean			after>L2W
	M	SD	M	SD	M	SD	N	%
non PTSD's mums	43.86	8.44	37	8.1	40.43	7.65	11	78.6
PTSD's mums	39.53	9.37	31.37	11.36	35.45	9.32	16	84.2
Widows	39.28	8.99	37.67	9.71	38.47	8.41	12	66.7
Control	-	-	-	-	46.8	7.24	-	-

L2W= Last two weeks. SS= Social support.
after>L2W = Subjects whose social support scores just after the disaster/event were more than their scores in the two weeks before the interview.

Table 4. The correlations of Social Support and the BDI, GHQ, SEQ and SAS.

Mean of Social support	BDI	GHQ	SEQ	SAS
Just after the event	r=-.21 p=.14	r=-.38 p=.006	r=-.39 p=.004	r=-.15 p=.29
Last two weeks	r=-.34 p=.01	r=-.38 p=.005	r=-.55 p<.001	r=-.22 p=.13
Mean (including control group)	r=-.38 p=.002	r=-.45 p<.001	r=-.51 p<.001	r=-.47 p<.001

BDI= Beck Depression Inventory, GHQ= General Health Questionnaire,
SEQ= Self-evaluation Questionnaire, SAS= Social Adjustment Scale

Table 5. The correlation of Social Support with post-event panic disorder and any post-event psychopathology.

Mean of Social support	panic	psychopathology 42	psychopathology 46
Just after the event	NS	NS	NS
Last two weeks	NS	NS	NS
Mean (included control group)	r=-.28 p=.03	r=-.22 p=0.07	r=-.22 p=0.07

Psychopathology 42 = any post-event psychopathology (after the age 42 for the control group).
Psychopathology 46 = any post-event psychopathology (after the age 46 for the control group).

PTSD Symptom Scale (PSS), Impact of Event Scale, and Social Adjustment Scale (SAS) was calculated. The correlations of social support with the PSS, IES and SAS were not significant. Table 4 shows the correlations of social support with the BDI, GHQ and SEQ. Apparently, the social support questionnaire scores of social support just after the event and the last two weeks were not applicable to the control group. The mean of the total of social support scores in all groups showed negative correlation with BDI (r= -0.38, p= 0.002), GHQ (r= -0.45, p< 0.001), SEQ (r= -0.51, p< 0.001) and SAS (r= -0.47, p< 0.001). The score of social support just after the disaster/event showed negative correlation with the GHQ (r=-0.38, p=0.006) and SEQ (r=-0.39, p=0.004). Social support scores of the last two weeks showed negative correlation with the BDI (r=-0.34, p=0.01), GHQ (r=-0.38, p=0.005) and SEQ (r=-0.55, p<0.001).

The significant correlations of social support with post-event symptomatology in all groups are shown in Table 5. The mean of social support total scores for all groups significantly correlated with post-event panic disorder (r =-0.28, p=0.03), and showed a trend of negative correlation with "any post-event psychopathology" (r=-0.22, p=0.07), and with "any psychopathology" after the age 42–46 years for the control group.

Discussion

Much of the research and attention on psychological sequel of disasters has been focused on the survivors. This is the first study so far as the authors are aware that systematically investigates, using standardized measures and comparison groups, the long-term psychological effects on close family members, in this case mothers of children involved in a disaster. The results confirm the general hypothesis that the experience of one's child being in a disaster, though surviving, constitutes a significant risk for the development of diagnosable psychopathology. However, and consistent with what was predicted, the rates of psychopathology for these mothers were less than for women whose husbands had died. These group differences were apparent on 'life-time' rates of diagnosable psychopathology in the period since the index event, but were not apparent, or only very partially, on current symptomatology, about six years later.

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