

BRIEF REPORT

Differential Experiences During the Holocaust and Suicidal Ideation in Older Adults in Treatment for Depression

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Data were used on 275 Jewish individuals aged 50 and older in outpatient treatment for depression in this retrospective cross-sectional study. Holocaust survivors who were in work camps, in ghettos, or in hiding (HS-WGH) and holocaust survivors who were in concentration camps (HS-CC) were more likely to suffer posttraumatic stress disorder compared to other survivors (HS-OT) and controls. The HS-WGH and HS-CC groups had at least a threefold greater odds of suicidal ideation compared to controls. Suicidal ideation rates did not differ significantly between HS-OT group and controls. Among survivors, HS-WGH had a threefold greater odds of suicidal ideation compared to HS-OT. The results are applicable to survivors of similar atrocities and show that differing types and severities of traumatic experiences have important implications for treatment planning.

In our recent article, depressed Holocaust survivors were 52% more likely to suffer suicidal ideation compared

to depressed non-Holocaust survivors (Clarke et al., 2004). Controls for age, sex, social support, severity of depression,

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history of suicide attempts, recent and remote experience of bereavements, physical health conditions, and family and social relationship difficulties showed this likelihood of suicidal ideation to be even greater at 87% (Clarke et al., 2004). Specific Holocaust experiences (i.e. concentration camp, work camp, hiding, ghetto life, etc.) were not examined, which might have had differential associations with suicidal ideation given past observations of differing rates of psychological distress among Holocaust survivors (Antonovsky, Maoz, Dowty & Wijsenbeek, 1971; Rosen et al., 1991; Stermer, Bar, & Levy, 1991). Antonovsky et al. (1971), Rosen et al. (1991) and Stermer et al. (1991) observed higher rates of psychological distress including sleep disturbances, anxiety, and depression, and symptoms and diagnosis of posttraumatic stress disorder (PTSD) in concentration camp survivors compared to other Holocaust survivors as well as controls. Therefore, the present study examines the associations between specific Holocaust experiences and suicidal ideation in a sample of depressed older adults.

We hypothesize that concentration camps survivors will have higher rates of suicidal ideation compared to both nonsurvivors and to those who survived other Holocaust adversities. Differing types of experiences of remote traumas may have different clinical presentation, which might have implications for treatment and monitoring of older adults with depression. These results may be applicable to other high-risk groups who may have experienced other remote traumas such as the Rwandan and Serbian genocides.

METHOD

The study sample consisted of Jewish individuals aged 50 and older in a geriatric psychiatry day hospital program in Toronto, Canada between September 1986 and December 2000. From the clinical database, individuals were selected for inclusion in the study if the data represented their first admission, if the individuals were Jewish, and their Holocaust status (i.e., yes/no) was known (i.e., 576 of 874 Jewish individuals' admission data; Clarke et al., 2004).

Exclusions were based on (a) lack of baseline Hamilton Depression Rating scale (HAM-D; Hamilton, 1960) score, and (b) diagnosis of dementia and lack of a primary depressive disorder diagnosis as made by the attending psychiatrist using *Diagnostic and Statistical Manual of Mental Disorders* criteria (*DSM-III*, *DSM-III-R*, *DSM-IV*, American Psychiatric Association, 1980, 1987, 1994). Depressive disorder is a broad category including organic affective disorder, major depressive disorder or episode, atypical depression, dysthymic disorder, adjustment disorder with depressed mood or mixed state, depressive disorder not otherwise specified, and bereavement (Clarke et al. 2004).

Therefore, there were 530 eligible first admission data representing 175 Holocaust survivors and 355 nonsurvivors. One hundred of the 355 nonsurvivors were randomly selected as controls. There were 16 individuals (out of 576) who were excluded from the study for whom Holocaust survivor status was known (i.e., yes/no) because they lacked suicidal ideation data, of whom two had dementia diagnosis and 14 did not (Clarke et al., 2004). These 14 participants, of which 12 were nonsurvivors, did not differ from the study sample in terms of age, sex, and education. The 12 nonsurvivors represented 3% of the potential pool of controls causing no major concern regarding their exclusion.

The Modified Life Events Scale (LEI-m; modified from Cochrane & Robertson, 1973) and family and individual social work interviews were used to ascertain Holocaust survivor status and the specific Holocaust experiences (Clarke et al., 2004). Holocaust survivors herein refer to Jewish individuals who lived in Europe under the Nazi occupation during World War II and were in concentration or work camps, in ghettos, were hiding or with the resistance forces during the war. Some individuals had more than one Holocaust experience, and so a hierarchical approach was used to categorize individuals into Holocaust survivor groups:

1. Individuals who were interned in concentration camps regardless of whether they indicated any of the other experiences were classified as concentration camps survivors (HS-CC).

2. Individuals not interned in concentration camps but who were interned in work camps, were in ghettos, or in hiding were classified as work camp, ghetto, hiding survivors (HS-WGH).
3. Individuals who were either in the resistance forces or who indicated being Jewish and were in Europe during the Holocaust but having no other Holocaust experiences except loss of family or friends were classified as other Holocaust survivors (HS-OT).

Suicidal ideation was ascertained by the suicide behavior question (i.e., Item 3) of the Ham-D (Hamilton, 1960). This item specifically asked, "Have you had any thoughts that life is not worth living, or that you'd be better off dead? What about having thoughts of hurting yourself, or even killing yourself?" with response choices, 0 = *absent*, 1 = *life is not worth living*, 2 = *wishes s/he were dead or any thoughts of possible death to self*, 3 = *suicidal ideas or gestures*, and 4 = *suicide attempts*. The variable was dichotomized based on its bimodal distribution with peaks at 0 and 2. A score of 2 or more identified individuals with suicidal ideation and a score of less than 2 identified those without suicidal ideation.

The covariates examined were age, sex, having a confidant (i.e., indicator of social support), severity of depression (i.e., Geriatric Depression Scale; Yesavage et al., 1983), history of suicide attempts, and the recent and remote experience of negative events such as bereavement, physical health conditions and family and social relationship difficulties (i.e., LEI-m; Cochrane & Robertson, 1973). Description of the methods of assessments is given in Clarke et al. (2004).

Data Analysis

Combinations of chi-square analysis and analysis of variance (with post hoc Tukey test) were employed at the bivariate level. Multivariate logistic regression techniques, using the three stages: variable specification, interaction, and confounding assessment were used to model the data (Kleinbaum, Kupper, & Morgenstern, 1982). Statistical interactions between the study variables and HS status

were assessed according to deviances between nested models (Kleinbaum et al., 1982). A 10% change between two estimates of the effect size criterion was used to determine the presence of confounding (Moldonado & Greenland, 1993).

RESULTS

As shown in Table 1, 47 Holocaust survivors were interned in concentration camps (HS-CC), 52 were interned in work camps, were in ghettos, or in hiding (HS-WGH); 76 survivors reported that they were Jewish and were in Europe during WWII but had no other Holocaust experiences except loss of family or friends or they were part of the resistant forces (i.e., HS-OT). Approximately 18% of the study sample was diagnosed with PTSD.

A one-way, between-groups analysis of variance with four levels (i.e. controls, HS-CC, HS-WGH, and HS-OT) was conducted with age as the dependent variable. There was a trend for age differences between the groups, $F(3, 271) = 2.47, p = .06$. A Tukey post hoc test conducted at the .05 level indicated that there was a trend for the HS-CC group to be younger than controls ($p = .05$). There were no education or gender differences between the groups. However, history of suicide attempts was highest in the HS-OT group (19.0%), $\chi^2(3, N = 212) = 9.4, p < .05$. Concentration camp survivors had the highest prevalence of PTSD (34.8%) followed by HS-WGH (26.9%). The prevalence of PTSD was statistically greater in all HS groups compared to controls, $\chi^2(3, N = 275) = 32.8, p < .001$, and significantly different among Holocaust survivor groups, $\chi^2(2, N = 175) = 32.8, p < .05$.

In examining the relationship between Holocaust experience and suicidal ideation (Table 2), multivariate adjustment for age, sex, social support, severity of depression, diagnosis of PTSD and history of suicide attempts showed 1.45-fold and 1.85-fold increases in the magnitude of the odds ratio for the HS-CC and HS-WGH groups, respectively (Model 2). Further adjustments for recent and remote negative life events showed an additional increase in the measure of effect for the HS-CC and HS-WGH

Table 1. Characteristics of Study Sample by Holocaust Survivor Status

	HS-CC	HS-WGH	HS-OT	nHS	Statistical test <i>F</i> (3, <i>N</i> -3-1)
Age <i>M</i> (<i>SD</i>) [<i>n</i>]	73.9 (4.9) [47]	75.0 (7.5) [52]	75.9 (7.6) [76]	76.9 (6.9) [100]	2.47
Severity of depression <i>M</i> (<i>SD</i>)	18.2 (6.2)	18.9 (6.2)	18.4 (6.0)	19.9 (5.7)	1.17
% Female [<i>n</i>]	70.2% [33]	65.4% [34]	61.8% [47]	69.0% [69]	$\chi^2(3)$
% < High school education [<i>n</i>]	27.3% [12]	18.0% [9]	33.3% [24]	19.6% [19]	1.24
% with a confiding relationship [<i>n</i>]	77.3% [34]	70.8% [34]	73.3% [34]	74.2% [49]	10.25
% with a history of suicide attempt [<i>n</i>]	—	—	19.0% [11]	—	0.51*
% with suicide ideation [<i>n</i>]	41.3% [19]	42.3% [22]	40.8% [31]	36.0% [36]	9.14*
% with posttraumatic stress disorder [<i>n</i>]	34.8% [16]	26.9% [14]	13.2% [10]	—	0.85
% with remote bereavement [<i>n</i>]	93.5% [43]	100.0% [52]	95.2% [40]	98.5% [65]	32.76***
% with remote health problems [<i>n</i>]	78.3% [36]	71.2% [37]	78.6% [33]	87.9% [58]	4.64
% with remote family relationship difficulties [<i>n</i>]	65.2% [8]	67.3% [7]	66.7% [6]	66.7% [11]	5.15
% with remote social relationship difficulties [<i>n</i>]	39.1% [18]	46.2% [24]	26.2% [11]	24.2% [16]	0.05
% with recent bereavement [<i>n</i>]	10.9% [5]	15.4% [8]	16.7% [7]	15.2% [10]	7.94*
% with recent health problems [<i>n</i>]	15.4% [8]	10.9% [7]	17.5% [6]	21.0% [11]	0.70
% with recent family relationship difficulties [<i>n</i>]	—	—	—	9.1% [6]	.41
% with recent social relationship difficulties [<i>n</i>]	—	—	14.3% [6]	12.1% [8]	4.26
					4.00

Note. — = cell sizes less than 5; nHS = controls; HS-CC = concentration camp survivors; HS-WGH = Holocaust survivors in work camps, ghettos, or in hiding; HS-OT = Holocaust survivors with other Holocaust experience not including concentration or work camps, ghettos, or in hiding. Chi-squared analyses were used for categorical variables and ANOVA with Tukey test for continuous variables.

* $p < .05$. *** $p < .001$.

Table 2. Logistic Models of the Relationship Between Specific Exposures During the Holocaust and Suicidal Ideation

Outcome = Suicidal ideation (Yes vs. No)	Model 1 ^a		Model 2 ^b		Model 3 ^c		Model 4 ^d	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Controls (or nHS)	1.00	—	1.00	—	1.00	—		
HS-OT	1.23	0.66-2.26	1.53	0.57-4.10	1.34	0.47-3.87	1.00	—
HS-WGH	1.30	0.66-2.59	3.70**	1.43-9.52	3.76**	1.34-10.21	3.06*	1.03-9.07
HS-CC	1.23	0.61-2.56	3.07*	1.06-8.89	3.21*	1.05-9.81	2.61	0.78-8.70
Age			1.03	0.98-1.09	1.04	0.98-1.10	1.03	0.96-1.11
Female			0.58	0.28-1.19	0.57	0.27-1.20	0.49	0.19-1.22
Having a confiding relationship ^e			0.35**	0.17-0.76	0.35*	0.16-0.78	0.30*	0.11-0.83
Severity of depression by GDS			1.04	0.98-1.11	1.04	0.98-1.11	1.07	0.99-1.16
Posttraumatic stress disorder			0.54	0.21-1.37	0.50	0.19-1.33	0.43	0.15-1.27
History of suicide attempts			1.98	0.60-6.13	1.42	0.39-5.19	2.04	0.49-8.55
Remote bereavement					0.90	0.37-2.24	0.98	0.35-2.75
Remote health problems					0.93	0.11-8.10	0.64	0.05-8.47
Remote family relationship difficulties					1.60	0.72-3.58	1.32	0.50-3.52
Remote social relationship difficulties					1.15	0.53-2.50	1.29	0.52-3.21
Recent bereavement					0.89	0.32-2.51	0.70	0.18-2.67
Recent health problems					0.80	0.27-2.37	0.98	0.26-3.73
Recent family relationship difficulties					1.99	0.40-9.84	1.46	0.16-13.70
Recent social relationship difficulties					1.61	0.47-5.52	1.98	0.41-9.43

Note. OR = Odds ratio; CI = Confidence Interval; GDS = Geriatric Depression Scale.

^a*N* = 275 for Model 1. ^b*N* = 167 for Model 2. ^c*N* = 161 for Model 3. ^d*N* = 113 for Model 4, which included only Holocaust survivors (HS-OT = referent group). ^eHaving a confiding relationship (i.e., a confidant) is the indicator of social support. nHS = controls, HS-CC = concentration camp survivors, HS-WGH = Holocaust survivors in work camps, ghettos, or hiding, HS-OT = Holocaust survivors with other Holocaust experience not including concentration or work camps, hiding, or in ghettos.

p* < .05. *p* < .01.

groups but a reduction for the HS-OT group (Model 3). This final model indicated that HS-WGH and HS-CC had at least threefold-increased odds of suffering suicidal ideation compared to non-Holocaust survivors. Comparisons among Holocaust survivor groups (Model 4) revealed that HS-WGH but not HS-CC had higher odds of suicidal ideation compared to HS-OT.

When suicidal ideation was reexamined as a continuous variable, for Model 3 the same patterns of higher rate of suicidal ideation in HS-WGH, $\beta = .51$, $p < .05$, and no difference for HS-OT, $\beta = .92$, *ns*, compared to controls were observed. However, HS-CC was not statistically different from controls, $\beta = .31$, *ns*, in this linear model. In the reassessment of Model 4 with suicidal ideation as a continuous variable, the effect of survivor status (i.e., HS-WGH vs. HS-OT) was marginally significant, $\beta = .42$, $p = .07$.

DISCUSSION

Rates of suicidal ideation varied with differential Holocaust experiences. However, before interpreting the results, it is important to note some limitations to this study. The retrospective nature of the data indicates susceptibility to recall bias. Since the data was not collected specifically for this study and information on suicidal ideation and Holocaust exposure was collected independently, there are no reasons to believe that the recall bias was differential across the exposure groups. The use of a sample in outpatient treatment indicates the chance of selection bias (e.g. high-risk groups) and limits the generalizability of the results. The HAM-D item did not allow for a comprehensive assessment of suicidal ideation. The combining of individuals who only spent a short time in the concentration camps with individuals who had extended stays into the same

group could have diluted the measure of effect observed. Given that the study involved secondary data analysis, the researcher had to make use of the data in its available state. Despite these limitations, the sample enabled us to examine an important health outcome in a group that had been severely traumatized in life thereby providing information that has significant implications for similarly traumatized groups.

The HS-WGH and HS-CC groups had approximately fourfold and threefold increased odds of suicidal ideation, respectively, compared to non-Holocaust survivors. These findings are consistent with the overwhelming consensus that Holocaust survivors have higher rates of psychological distress compared to non-Holocaust survivors (Antonovsky et al., 1971; Clarke et al., 2004; Rosen et al., 1991; Stermer et al., 1991). However, the Holocaust literature has reported that concentration camp survivors had the highest rate of psychological distress such as depression, anxiety, and sleep disturbances, compared to nonsurvivors and to other Holocaust survivors (Antonovsky et al., 1971; Rosen et al., 1991; Stermer et al., 1991) but this study found almost similar odds for suicidal ideation in survivors of concentration camps and of work camps, ghetto survivors, and in those hiding. Therefore, the data supported our hypothesis of higher rates of suicidal ideation in concentration camp survivors compared to non-survivors but failed to support the hypothesis that concentration camp survivors would have higher rates of suicidal ideation compared to all other groups of Holocaust survivors. It is important to note that due to a high mortality rate among interns of the concentration camps our sample of HS-CC is based on a potentially small percentage of all who were interned in these camps during the Holocaust and were likely the healthiest of all internees, thereby providing a smaller range of psychological distress. This might account for the similar high rate of suicidal ideation observed in concentration camp survivors and survivors who were in work camps, in ghettos, or in hiding.

The HS-OT group was not statistically different from controls with respect to suicidal ideation despite having a significantly higher prevalence of a history of suicide attempts. However, the HS-OT had lower rates of suicidal

ideation compared to the HS-WGH group but not the HS-CC group. The Holocaust experience of the HS-OT group included being part of the resistance forces during WWII, which might have required better physical health and self-selection. The lack of statistical significant difference with respect to suicidal ideation compared to non-Holocaust survivors observed herein may be a result of this initial better health (i.e. "healthy" survivor effect) as well as self-selection bias. In addition, being actively involved in resisting the Nazi forces might have had an empowering effect on this group of survivors (HS-OT), thereby enhancing their resilience during and after the war (Lessing, 1999).

All Holocaust survivor groups had higher rates of diagnosis of PTSD than non-Holocaust survivors, with the HS-CC group having the highest rate of diagnosis of PTSD (34.8%). The HS-WGH group had the second highest rate of PTSD diagnosis. The presence of PTSD in all Holocaust survivor groups indicates a possible reliving of traumatic experience in the forms of intrusive memories, nightmares, avoidant behaviors, etc., and possibly the taxing and depletion of coping resources (Clarke et al., 2004). The adversities exposed to in the concentration camps presumably were the most severe of all Holocaust experiences and would therefore account for the highest rate of diagnosis of PTSD observed in the HS-CC group.

CONCLUSION

This study found that among a sample of older adults in treatment for depression, Holocaust survivors who were either in the work camps, hiding and/or ghettos had an almost fourfold increased odds for suicidal ideation compared to controls. Concentration camp survivors also had increased odds for suicidal ideation compared to controls (threefold). Holocaust survivors who were in Europe during WWII, but were not interned in concentration or work camps or not in hiding or in ghettos, some of whom were part of the resistant forces (i.e., HS-OT), were not statistically different from controls with respect to suicidal ideation. Holocaust survivors are a heterogeneous group with differing experiences during the war with differential

association with suicidal ideation in old age. This indicates the need for careful assessment of the timing, types, and severities of traumatic experiences of individuals in treatment for depression, who might be at risk for suicide. This is important given the occurrence of a number of similar atrocities to individuals of varied cultures, such as Rwanda and Kosovo, and the migration of such individuals internationally. The assessment of past traumatic events needs to be taken into account for effective and culturally sensitive treatment planning and evaluation.

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