Resilience mitigates the suicide risk associated with childhood trauma

Alec Roy a,⁎, Vladimir Carli b, Marco Sarchiapone c

a Psychiatry Service, New Jersey VA Health Care System, USA
b National Prevention of Suicide and Mental Ill-Health, Karolinska Institute, Stockholm, Sweden
c Department of Health Science, University of Molise, Campobasso, Italy

Abstract

Objective: We wished to examine whether resilience might be a protective factor in relation to suicidal behavior.
Method: To do this resilience was examined in relation to childhood trauma, a well-established risk factor for suicidal behavior, in two samples. In a preliminary sample 20 abstinent substance abuse patients who had attempted suicide were matched for age and their score on the Childhood Trauma Questionnaire (CTQ) with 20 substance abuse patients who had never attempted suicide. The two age and CTQ matched attempter (N = 20) and non-attempter (N = 20) groups were then compared for their scores on the Connor-Davidson Resilience Scale (CD-RISC). In the second sample 166 prisoners who had attempted suicide were matched for age and their scores on the CTQ with 166 prisoners who had never attempted suicide. These two age and CTQ matched attempter (N = 166) and non-attempter (N = 166) groups were similarly compared for their CD-RISC resilience scores.
Results: In the preliminary substance abuse sample, patients who had never attempted suicide (N = 20) had significantly higher mean CD-RISC resilience scores than the age and CTQ matched patients who had attempted suicide (N = 20). Similarly in the prisoner sample, those who had never attempted suicide (N = 166) had significantly higher CD-RISC resilience scores than the age and CTQ matched prisoners who had attempted suicide (N = 166).
Conclusions: The results from these two studies suggest that resilience may be a protective factor mitigating the risk of suicidal behavior associated with childhood trauma.

Keywords: Attempt, Suicide, Resilience, Childhood, Trauma

Research report

Childhood trauma is associated with an increased risk of suicidal behavior. This increased suicide risk has been shown in both general population and clinical studies. For example, results from general population studies like the Epidemiologic Catchment Area (ECA) Study and the US National Comorbidity Survey have demonstrated a strong association between childhood sexual abuse and suicidal behavior (Davidson et al., 1996; Molnar et al., 2001). Similarly, an Australian community study of twins found that a history of childhood trauma significantly increased the risk of a suicide attempt (Nelson et al., 2002). Clinical studies have also reported that childhood trauma is associated with suicide attempts in patients with various psychiatric disorders (Brodsky and Stanley, 2008; Felitti et al., 1998; Roy, 2005; Sarchiapone et al., 2007). The importance of childhood trauma as a risk factor for suicidal behavior is shown by recent data from the US National Comorbidity Survey Replication (Afifi et al., 2008). From that study Afifi et al. reported that exposure to childhood physical abuse, sexual abuse or witnessing domestic violence accounts for 16% and 50% of suicidal ideation and attempts, respectively, among women and 21% and 33% of ideation and attempts among men (Afifi et al., 2008).

However, studies also show that not all individuals exposed to childhood trauma exhibit suicidal behavior. Thus...
it is possible that there may be protective factors that diminish the risk of an individual with childhood trauma attempting suicide. Such protective factors might include marital status, being employed, religious affiliation, social support, biologic factors, and personality factors (Charney, 2004; Dervic et al., 2004; Hoge et al., 2007; Malone et al., 2000; Stein, 2009). Resilience might be one such a protective factor. Resilience has been defined as the capacity for successful adaptation to change, a measure of stress coping ability or emotional stamina, the character of hardness and invulnerability, the ability to thrive in the face of adversity or recover from negative events (Charney, 2004; Hoge et al., 2007; Rutter, 1985; Stein, 2009). Resilience is thought to be an important protective factor against the development of psychiatric disorder in the face of adversity (Rutter, 1985). The Connor Davidson Resilience Scale (CD-RISC) is a scale to measure resilience (Connor and Davidson, 2003). We had administered it in two studies to patients on whom we also had information about childhood trauma, as they had also completed the Childhood Trauma Questionnaire (CTQ) of Bernstein et al. (Bernstien et al., 1994). These patients had also been interviewed about their lifetime history of attempting suicide.

Therefore, it was decided to examine whether resilience might mitigate the risk of exhibiting suicidal behavior associated with childhood trauma. Thus in the first preliminary study, abstinent substance dependent patients who had been administered both the CD-RISC and CTQ and been interviewed about whether or not they had ever attempted suicide, were examined. Patients who had attempted suicide were matched for their CTQ score, and age, with patients who had never attempted suicide and then the age and CTQ matched attempters and non-attempters compared for their CD-RISC resilience scores. Second, as the results in that preliminary study were encouraging, it was decided to further examine this issue in a larger group of prisoners who had similarly been administered both the CD-RISC and CTQ and been interviewed about whether or not they had ever attempted suicide. Again subjects who had or had never attempted suicide were matched for their CTQ score, sex, and age and then the age, sex, and CTQ matched groups were compared for their CD-RISC resilience scores. The hypothesis tested in both studies was that being more resilient might be a protective factor militating against the risk of suicidal behavior associated with childhood trauma. Specifically, we hypothesized that subjects who had never attempted suicide would have significantly higher CD-RISC resilience scores than their CTQ matched subjects who had attempted suicide.

1. Subjects and methods

1.1. Preliminary study

This involved examining a consecutive series of 100 abstinent substance dependent patients who had all completed the Connor-Davidson Resilience Scale (CD-RISC) (Connor and Davidson, 2003). A subset of 47 of these 100 patients had also completing the Childhood Trauma Questionnaire (CTQ), 34 item version, of Bernstein et al. (Bernstien et al., 1994). All patients were seen in the Substance Abuse Treatment Program at the Department of Veterans Affairs, New Jersey Health Care System, East Orange Campus. Inclusion criteria were that the patient met DSM-IV criteria for substance dependence and were abstinent when studied. Exclusion criteria included a lifetime history of schizophrenia, other psychosis, or mental retardation.

A psychiatric interview was conducted by a psychiatrist (AR) about socio-demographic variables, substance dependence history using the substance dependence section of the SCID, and about lifetime history of any attempt at suicide. A suicide attempt was defined as a self-destructive act with some intent to end one’s life that was not self-mutilatory in nature. The information from the patient was supplemented by collateral information from mental health program staff, medical records, the program internist and physician’s assistant, and from treating mental health professional.

All 100 patients completed the Connor-Davidson Resilience Scale (CD-RISC) (Connor and Davidson, 2003) and 47 of the 100 also completed the Childhood Trauma Questionnaire (CTQ), 34-item version of Bernstein et al. (Bernstien et al., 1994). The CTQ yields scores for childhood physical abuse, emotional abuse, physical neglect, emotional neglect, and sexual abuse as well as a weighted total score which was used here (Bernstien et al., 1994, 1997). After complete description of the study to the subjects, written consent was obtained. Some of this data has been previously reported (Roy, 2009; Roy et al., 2007a, b; Sarchiapone et al., 2009a).

Forty-one of the 100 patients had attempted suicide and 59 had not. All 41 attempters had completed the CD-RISC and 22 of these 41 had also completed the CTQ. All 59 non-attempters had completed the CD-RISC and 25 of these 59 had also completed the CTQ. It was possible to match 20 of these 22 attempters who had completed both the CD-RISC and CTQ for both total CTQ score (±2 points) and age (±5 years) with the next patient seen who had never attempted suicide who had also completed both the CD-RISC and CTQ. Then the age and CTQ matched attempter and non-attempter groups were compared for their CD-RISC scores.

1.2. Prisoner study

We studied a group of 652 male prisoners detained in five jails in the Italian region of Abruzzo. Participants’ mean age was 39.82 years (SD = 10.75). The majority were single, employed and with intermediate or slightly higher level of education. Study inclusion criteria were willingness to participate in the study and sign informed consent, while those who were unable to speak or read Italian and had mental retardation or florid psychosis were excluded. After complete description of the study, written informed consent was obtained. The study was approved by the ethical committee of the University of Molise.

All prisoners underwent a DSM-IV structured psychiatric interview (American Psychiatric Association, 1994) conducted by two experienced psychiatrists (V.C. and M.S.) (Sarchiapone et al., 2009a). All prisoners completed both the 34 item CTQ and the CD-RISC. Both scales were translated for the Italian population prior to the beginning of the study. Psychometric and statistical techniques were used to establish the equivalence of the source and target language versions of the instruments (Sarchiapone et al., 2009b). A lifetime history of attempting suicide attempt was assessed during the psychiatric interview. A suicide attempt was...
defined as a self-destructive act with some intent to end one’s life that was not self-mutilatory in nature.

Subsequently each prisoner who had attempted suicide (N=166) was matched for both total CTQ score (±2 points) and age (±7 years) with the next prisoner interviewed who had no lifetime history of attempting suicide (N=166). Then the age and CTQ matched attempter (N=166) and non-attempter (N=166) groups were compared for their CD-RISC scores.

In the statistical analysis, Student’s t and chi square tests were used.

2. Results

2.1. Preliminary study

Nineteen of the 20 patients who had attempted suicide were male compared with 16 of the 20 CTQ matched patients who had never attempted suicide. As they were matched for CTQ, the 20 patients who had never attempted suicide had a mean total CTQ score very similar to that of the 20 patients who had attempted suicide (mean CTQ score 11.14 sd 3.76 vs 11.72 sd 4.13, t=0.46, df=38, P=0.65). However, the 20 patients who had never attempted suicide had significantly higher CD-RISC scores than the 20 CTQ matched patients who had attempted suicide (mean CD-RISC score 63.61 sd 20.44 vs 47.55 sd 18.14, t=2.63, df=38, P<0.0123).

2.2. Prisoner study

All the prisoners were male. It was possible to match 166 male prisoners who had attempted suicide for age and total CTQ score with 166 male prisoners who had never attempted suicide. As they were matched, the 166 prisoners who had attempted had a very similar mean age and mean total CTQ score compared with the 166 prisoners who had never attempted (mean age 40.96 sd 9.72 vs 40.94 sd 9.63 years, t=0.02, df=330, P=0.98 and mean CTQ 9.37 sd 3.65 vs 9.05 sd 3.40, df=330, P=0.41, respectively). However, the 166 prisoners who had never attempted suicide had significantly higher resilience scores than the 166 CTQ matched prisoners who had attempted suicide (mean CD-RISC score 63.63 sd 13.51 vs 56.48 sd 17.74, t=4.13, df=330, P<0.0001).

3. Discussion

Childhood trauma is well established as a risk factor predisposing an individual to an increased risk of exhibiting suicidal behavior. In fact we have shown in both abstinent substance dependent patients and prisoners that those who had a lifetime history of suicidal behavior had significantly higher CTQ scores than those who had never attempted suicide (Sarchiapone et al., 2009a,b). However, not every individual who has experienced childhood trauma exhibits suicidal behavior. Thus the rationale behind this report was to examine a potential protective factor—namely resilience—that might mitigate the risk of suicidal behavior in individuals who had experienced childhood trauma. In the present studies, in both groups of substance abusers and prisoners, we matched subjects who had attempted suicide for their total CTQ score and age with the next substance abuser or prisoner who had never attempted suicide. We then compared the age and CTQ matched attempters and non-attempters for their CD-RISC resilience scores. In both studies it was found that subjects who had never attempted suicide had significantly higher CD-RISC resilience scores than the CTQ matched patients who had attempted suicide.

Thus, as the subjects in both studies who had never attempted suicide had the same CTQ score as the matched patients who had attempted suicide, but significantly higher resilience scores one might speculate that the greater resilience in the non-attempters may have partly mitigated the risk of suicidal behavior associated with the childhood trauma. In fact the results of the present studies are supported by the results of a recent study from Norway. Nrugham et al. (Nrugham et al., 2010) examined a subset of mainly depressed age and gender matched adolescents drawn from a representative sample of 2,464 students who were followed up after 1 year. They were subsequently reassessed 5 years later, a reassessment which included completion of the same 25 item CD-RISC resilience questionnaire as used in the present studies. They used sequential logistic regression to examine resilience as a moderator between lifetime suicide attempts and violent life events. This revealed that high resilience scores at age 20 were significantly negatively associated with the probability of a suicide attempt, even if the young adults were victims of violent life events during their lifetime and had been depressed at age 15 years. Thus these authors believe that higher resilience protected from suicide attempts even in the context of either victimization by violence or antecedent depression. They concluded that some depressed adolescents may be resilient enough to protect themselves from making a suicide attempt.

Limitations of the present studies include that samples of convenience who had completed both the CTQ and CD-RISC were studied. Interestingly, however, both the substance abuser and prisoner samples who had never attempted suicide had very similar mean CD-RISC scores. Another limitation was that the childhood trauma data were derived from a self-report questionnaire. However, the CTQ has been shown to have high reliability and validity (Bernstien et al., 1994, 1997). Furthermore, both Bifulco et al. (Bifulco et al., 1997) and Goodman et al. (Goodman et al., 1999) observed good reliability in the reporting of childhood trauma. Also, Fergusson et al. (Fergusson et al., 2000) reported an almost uniform absence of association between reports of childhood abuse and psychiatric measures, consistent with previous studies showing that the reporting of childhood trauma in not influenced by psychiatric state at the time of reporting.

In conclusion, the results of the two present studies suggest a possible role for resilience as a protective factor mitigating the risk of an individual who has experienced childhood trauma from making a suicide attempt. An alternative, but unlikely, explanation of the results might be that a lifetime history of attempting suicide itself led to the attempters subsequently being less resilient, and thus scoring lower on the CD-RISC, than the subjects who had never attempted suicide. This possibility was addressed, and rebutted, by the longitudinal Norwegian study of adolescents but further longitudinal studies would also be helpful.

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Conflict of interest
No conflict declared.

References