Does “Subthreshold” Posttraumatic Stress Disorder Have any Clinical Relevance?

Caron Zlotnick, C. Laurel Franklin, and Mark Zimmerman

The present report examined the extent to which subthreshold posttraumatic stress disorder (PTSD) (without lifetime PTSD) and full PTSD are associated with impairment or distress, controlling for comorbidity (i.e., major depression and panic disorder) in a sample of treatment-seeking psychiatric patients. Patients were administered diagnostic interviews and assessed for psychosocial impairment and whether or not they desired treatment for their PTSD symptoms. No significant differences were found between patients with full PTSD (N = 156) and those with subthreshold PTSD (N = 56) in degree of impairment (i.e., social and work functioning, as well as number of suicide attempts). In contrast, those with full PTSD had significantly more psychiatric hospitalizations and worse global functioning and were more likely to want treatment for their PTSD symptoms compared to those with subthreshold PTSD, albeit the majority of patients with subthreshold PTSD wanted treatment for their PTSD symptoms. These findings, like past research, suggest that subthreshold PTSD is associated with levels of social and work morbidity comparable to full PTSD. However, the report also underscores the difficulties in identifying a set of clinical criteria that clearly delineates between full PTSD and subthreshold PTSD.

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There is a growing awareness that “subthreshold” posttraumatic stress disorder (PTSD) (i.e., symptoms below the threshold for the DSM-IV diagnosis), often referred to as “partial” PTSD, exists and is about as prevalent as full PTSD. Next to the number of symptoms as the main criterion for defining a subthreshold disorder, the extent of impairment has been considered as the most salient criterion for defining a subthreshold anxiety disorder. Recently, the International Consensus Group on Depression and Anxiety, 2000 reported that individuals who fail to meet all the diagnostic criteria of PTSD suffer significant psychosocial impairment.

Of the few empirical studies to examine the degree of disability attributable to subthreshold PTSD, an epidemiologic study found that partial PTSD compared to full PTSD approached a similar degree of work and social dysfunction. Furthermore, in this study, individuals with partial PTSD reported significantly more work and social dysfunction than traumatized individuals without full or partial PTSD. A limitation of this study was that lifetime PTSD was not assessed, and, therefore, it was unclear whether the impairment was related to PTSD in partial remission, full remission, or subthreshold PTSD. Also, this study focused exclusively on PTSD without considering comorbid conditions, in particular major depression and panic disorder. Of the psychiatric disorders, major depression is the disorder that most frequently co-occurs with PTSD and is associated with a high degree of disability. Panic disorder is also common to PTSD, and, furthermore, panic disorder and PTSD are the anxiety disorders found to have the greatest number of risk factors for service usage and adverse workplace outcomes. Thus, these comorbid disorders may have accounted for the relationship between PTSD symptoms and disability found in prior research.
Other studies that have examined the association between subthreshold PTSD and impairment have usually focused on populations with a specific type of trauma exposure. In one such study, former political prisoners who reported partial PTSD showed greater subjective distress than nontraumatized controls, but were less psychologically distressed than those with full PTSD. Studies of Vietnam veterans have also found that individuals with partial PTSD exhibited comparable levels of impairment to persons with full PTSD.

Although limited, there is accumulating evidence to suggest that subthreshold PTSD is associated with a marked degree of psychiatric morbidity. Research in this area has important ramifications in terms of whether the scope of research, prevention, and treatment should broaden to include individuals who present with symptoms but do not meet criteria for full PTSD. Establishing the validity of the construct, subthreshold PTSD, also raises taxonomic issues, such as whether PTSD symptoms fall on a continuum with diagnosable PTSD. Recently, in the general field of psychiatry, there has been fervent debate on whether the diagnostic system can establish meaningful boundaries between abnormal and normal functioning. Some experts have suggested that instead of differentiating more clearly between normal and pathogenic expressions of behavior, the goal may be to determine whether or not a qualitative distinction can in fact be made. Impairment or distress has been considered as the optimal means by which to identify a qualitative distinction between normal and abnormal psychopathology.

In an attempt to address gaps in the literature and assess the clinical relevance of the diagnosis, subthreshold PTSD, the present report from the Rhode Island Methods to Improve Diagnostic Assessment and Services (MIDAS) project used a sample of treatment-seeking outpatients to examine the extent to which subthreshold PTSD (without lifetime PTSD) and full PTSD are associated with impairment or distress (i.e., social and work impairment, overall functioning, presence of psychiatric hospitalization/s, presence of suicide attempt/s, and principal diagnosis for PTSD-related disorders), controlling for comorbidity (i.e., major depression and panic disorder). Since this report utilized a sample of treatment-seeking patients, the study was able to examine whether patients with subthreshold PTSD were as likely to want treatment to address their PTSD symptoms as patients with full PTSD.

**METHOD**

One thousand three hundred patients were evaluated with semistructured diagnostic interviews in the Rhode Island Hospital Department of Psychiatry outpatient practice. This private practice group predominantly treats individuals with medical insurance (including Medicare but not Medicaid) on a free-service basis, and it is distinct from the hospital’s outpatient residency training clinic that predominantly serves lower income, uninsured, and medical assistance patients. Exclusion criteria for the report were less than 18 years of age, a history of a developmental disability, or difficulty with the English language. As described elsewhere, patients who did and did not participate in the study were similar in gender, education, marital status, and scores on self-administered symptom questionnaires.

The patients were interviewed by a diagnostic rater who administered the Structured Clinical Interview for DSM-IV (SCID). For all axis I disorders, “current” was defined as meeting the DSM-IV diagnostic criteria for each disorder at the time of the evaluation. The Rhode Island Hospital institutional review committee approved the research protocol, and all patients provided informed, written consent.

Throughout the MIDAS project, ongoing supervision of the raters included weekly diagnostic case conferences involving all members of the team. During the course of the study, joint-interview diagnostic reliability information was collected on 26 patients. These 26 patients were randomly selected from the larger study group of 1,300 patients. For disorders diagnosed at least twice and disorders relevant to this study, Kappa coefficients were: major depressive disorder (κ = 1.0), panic disorder (κ = 1.0), and PTSD (κ = 1.0).

The PTSD section of the SCID begins with the question “Sometimes things happen to people that are extremely upsetting or life-threatening—like a major disaster, very serious accident, combat, fire, being physically assaulted or raped, seeing another person killed or dead or badly hurt. Have any of these kinds of things happened to you?” Patients who reported more than one trauma were asked which trauma affected them the most, and the symptoms of PTSD were asked about the event that was identified as most traumatic. The first 402 patients were not specifically asked about the presence or absence of each type of trauma; rather, they were asked the SCID’s initial screening question and the traumatic events that were reported were classified into 13 categories.

Subsequent patients were first asked the PTSD screening question, and those who did not report a trauma were then cued with a trauma list, which included a variety of traumatic experiences (e.g., natural disaster, sexual abuse, combat). Patients reporting a trauma on either the screening question or the trauma list were then assessed with the remainder of the SCID PTSD module. PTSD was assigned as either the principal diagnosis (κ = 1.0), or an additional diagnosis.

In the literature, there has been no consistent definition for subthreshold PTSD and studies have used considerably diver-
gent diagnostic criteria for subthreshold PTSD. In this study, subthreshold PTSD diagnoses were defined as clinically significant symptoms that fell below the DSM-IV symptom threshold to diagnose PTSD. However, the minimal level of impairment/distress criterion necessary to diagnose both subthreshold PTSD and full PTSD was the same. The impairment/distress criterion used in this report (i.e., the disturbance causes clinically significant distress or impairment in social, occupational or other important areas of functioning) was based on the DSM definition.

Patients reporting a trauma who did not meet criteria for lifetime PTSD or subthreshold PTSD were included in the trauma histories only group. These patients reported a trauma and had either few to no PTSD symptoms, met each criterion, but their symptoms did not persist for at least a month, or they were not distressed or impaired by their symptoms, according to the DSM definition.

Patients were interviewed about the number of times they had been hospitalized for psychiatric reasons, the number of suicide attempts they had made in the last year and prior to the past year, and their overall functioning was rated on the DSM-IV Global Assessment of Functioning (GAF) scale, taking into account psychological, social, and occupational impairment. Lastly, a Hamilton Depression Scale (Ham-D) score was extracted from the Schedule for Affective Disorders and Schizophrenia (SADS) items assessed as part of the SCID interview, based on the method outlined by Endicott et al.14

Items from the SADS were used to assess social and work impairment. Specifically, participants were asked to estimate the number of days they were out of work due to emotional or psychiatric problems within the past 5 years and their answers were coded on a 10-point scale (ranging from virtually no days out of work to working almost no time due to emotional problems). Patients were also rated on their highest level of social functioning over the past 5 years (7-point scale), as well as their early social functioning (i.e., between the ages of 12 and 18; 6-point scale).

Data Analyses

This report examined differences in degree of impairment and distress among three groups of patients. These three groups consisted of patients who met criteria for full current PTSD, patients who met criteria for current subthreshold PTSD (no lifetime PTSD), and patients who reported a history of trauma exposure but did not meet criteria for full PTSD, subthreshold PTSD, or lifetime PTSD (i.e., any PTSD-related disorder).

Demographic variables and comorbid current major depressive disorder (MDD) and current panic disorder with and without agoraphobia [PD] were compared across groups using chi-square tests and t tests. Those variables found to significantly differ were used as covariates in the remainder of the analyses to ensure that these differences among the groups did not account for significant findings.

To examine whether patients with current full PTSD, current subthreshold PTSD, and a trauma history and no PTSD-related disorder would differ in their level of distress and impairment, a multivariate analysis of covariance (MANCOVA), controlling for significant differences between groups on demographics and comorbid diagnoses of MDD and PD, was conducted with the various indices of impairment and distress as dependent variables (that is, at least one psychiatric hospitalization, at least one suicide attempt, Global Assessment of Functioning [GAF], number of days out of work in the last 5 years, and ratings of current and past social impairment).

Since research has found that more individuals who had been exposed to trauma met the reexperiencing or hyperarousal criterion than the avoidance criterion,7,15 the number of symptoms in each symptom cluster of PTSD (i.e., the re-experiencing, avoidance, and arousal criteria), were also entered into the MANCOVA as dependent variables. Thus, the report could examine whether subthreshold PTSD consisted mostly of patients who meet only the re-experiencing, and arousal criteria.

Another reason for the inclusion of these three criteria was to ensure that there were differences among the three groups in number of symptoms in each criterion of PTSD. The report also included a measure of severity of depression (an extracted Ham-score) in the MANCOVA as a dependent variable to examine if there were differences among the three groups in severity of depressive symptoms, which may account for any differences found among the three groups. Follow up univariate analyses of covariance (ANCOVA) were conducted based on an examination of the means for those dependent variables found significant in the MANCOVA model.

To explore whether patients with current full PTSD and those with current subthreshold PTSD would differ in their desire for treatment to address their trauma-related diagnosis (wants treatment for their PTSD symptoms v wants treatment for only other disorders, but not for PTSD) and with regard to a clinician rated principal diagnosis for PTSD (principal diagnosis v additional diagnosis), chi-square tests were conducted between the two groups.

RESULTS

Of the 1,300 patients, 156 (12.0%) met criteria for current full PTSD, 84 (7.0%) for current subthreshold PTSD, and 460 (35.4%) for trauma histories and no PTSD-related disorder (i.e., no full PTSD, lifetime PTSD, or subthreshold PTSD). Of the 460 patients with trauma histories and no PTSD-related disorder, the majority had few to no PTSD symptoms (n = 453; 98%), while the remaining seven (2%) patients either met each criterion, but their symptoms did not persist for at least a month (n = 6), or they were not distressed or impaired by their symptoms, according to the DSM definition (n = 1). Within the subsample of interest (n = 700), most of the patients were female (n = 448; 64.0%) and Caucasian (n = 614; 87.7%). The mean age of subjects was 38.4 years (SD 12.42). Forty-two percent (n = 293) were married or cohabiting and the majority of participants had some college education (n = 446, 63.7%).

There were significant differences among the three groups in that the trauma histories only group had significantly more men (n = 188; 40.9%) than both the full PTSD (n = 43; 27.6%) and subthreshold PTSD groups (n = 21; 25.0%) (χ² = 13.96,
with PTSD did not significantly differ on number of PTSD criteria met. The PTSD group differed from the other groups with regard to number of hospitalizations, GAF and Ham-D scores, and from the trauma only group in number of days out of work (rating scale), and current and past social functioning. There were no significant differences with regard to number of suicide attempts (Table 2).

Since there were significant differences among the three groups in severity of depressive symptoms, a MANCOVA was conducted among the three groups (full PTSD, subthreshold PTSD, and trauma only) on measures of impairment and distress, controlling for PD, MDD, demographic variables and depressive symptoms. This MANCOVA yielded the same significant findings as the original MANCOVA, which did not control for level of depressive symptoms.

**DISCUSSION**

The main findings of this report were as follows:

1. Patients with current full PTSD were not significantly different from those with current subthreshold PTSD in level of impairment (i.e., social and work functioning as well as at least one suicide attempt). (2) Patients with current full PTSD, compared to those with current subthreshold PTSD, were significantly more likely to have at least one prior psychiatric hospitalization and worse global functioning, and were more likely to receive a principal diagnosis for their PTSD-related disorder, as well as want treatment for their PTSD symptoms. (3) Patients with current subthreshold PTSD did not significantly differ from those with histories of trauma and no PTSD-related disorder in degree of impairment or distress. (4) Patients with current full PTSD were significantly different
from those with histories of trauma and no PTSD-related disorder on all measures of impairment and distress, except for the presence of at least one suicidal attempt.

This report’s findings and the findings of other research suggest that subthreshold PTSD is associated with impairment (i.e., social and work functioning), which is comparable to the impairment associated with full PTSD, and support the concept of a subthreshold presentation in terms of degree of social dysfunction. Although this report found that patients with full PTSD were more likely to desire treatment for their PTSD symptoms than patients with subthreshold PTSD, a substantial proportion of patients with subthreshold PTSD (73%) subjectively perceived their PTSD symptoms as sufficiently distressing to require treatment. This finding supports the clinical relevance of subthreshold PTSD, the present study does not resolve the issue of whether a clinical intervention for subthreshold PTSD would be beneficial for patients.

Findings from the present report, which argue against subthreshold PTSD as a disorder comparable to full PTSD in terms of negative clinical consequences, were that patients with full PTSD were significantly more likely to have at least one prior psychiatric hospitalization, poorer level of global functioning, and greater frequency of principal PTSD diagnoses than patients with subthreshold PTSD. One possible explanation for the finding that patients with full PTSD compared to subthreshold PTSD were more likely to have at least one prior psychiatric hospitalization is that a common comorbid disorder, such as a personality disorder, that is associated with a high rate of psychiatric hospitalization, may have accounted for the significant difference between the two groups. In addition, although a significant difference was found between the two groups in the GAF rating, the GAF is a broad measure of psychosocial functioning and does not limit itself to impairment ratings due to trauma related diagnoses. Nevertheless, the mixed findings highlight the difficulty in identifying a qualitatively distinct set of criterion, which define a boundary between normalcy and diagnosable psychopathology or which clearly indicates the need for clinical intervention. Perhaps with the advancement of biological psychiatry, neurobiological manifestations of PTSD (such as abnormal sleep electroencephalograms or neuroendocrine dysfunction) may yield a discrete marker for full PTSD.

Unlike a previous study, subthreshold PTSD was not overall significantly different in degree of impairment or distress to trauma exposure without a PTSD-related disorder. Besides differences in methodology, such as the definition of subthreshold PTSD, a possible reason for the difference between the two studies is that the previous study utilized an epidemiologic sample. Probably, in the

<table>
<thead>
<tr>
<th>Variable</th>
<th>Full PTSD (n = 156)</th>
<th>Subthreshold PTSD (n = 84)</th>
<th>Trauma Histories Only (n = 460)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD criteria, N (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criterion B</td>
<td>156 (100)a</td>
<td>80 (95.2)b</td>
<td>212 (46.1)c</td>
</tr>
<tr>
<td>Criterion C</td>
<td>156 (100)a</td>
<td>24 (28.6)b</td>
<td>34 (7.4)c</td>
</tr>
<tr>
<td>Criterion D</td>
<td>156 (100)a</td>
<td>53 (63.1)b</td>
<td>101 (22.0)d</td>
</tr>
<tr>
<td>GAF, mean (SD)</td>
<td>45.53 (10.51)a</td>
<td>50.62 (9.49)b</td>
<td>54.15 (10.70)b</td>
</tr>
<tr>
<td>At least 1 prior hospitalization (general psychiatric), N (%)</td>
<td>63 (40.4)a</td>
<td>18 (21.4)b</td>
<td>95 (20.7)b</td>
</tr>
<tr>
<td>At least 1 prior suicide attempt, N (%)</td>
<td>29 (18.6)</td>
<td>9 (10.7)</td>
<td>31 (8.7)</td>
</tr>
<tr>
<td>Extracted Ham-D symptoms, mean (SD)</td>
<td>23.16 (8.75)a</td>
<td>19.27 (7.66)b</td>
<td>16.47 (7.82)b</td>
</tr>
<tr>
<td>Current social functioning, mean (SD)</td>
<td>3.27 (1.29)a</td>
<td>2.94 (1.17)b</td>
<td>2.81 (1.10)b</td>
</tr>
<tr>
<td>Past social functioning, mean (SD)</td>
<td>3.13 (2.53)a</td>
<td>2.31 (2.01)b</td>
<td>2.10 (1.91)b</td>
</tr>
</tbody>
</table>

**NOTE.** Means in each row that do not share a letter superscript differ significantly at $P < .01$. 

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Table 2. Comparisons Among Patients With Full PTSD, Subthreshold PTSD, and Trauma Histories only (i.e., no PTSD-related disorders) in Level of Impairment or Distress

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epidemiologic sample, traumatized persons without PTSD were less likely to meet criteria for other psychiatric disorders, and therefore, less likely to report a high degree of impairment or distress. In contrast, the present report involved a treatment-seeking sample and traumatized persons without PTSD met criteria for other psychiatric disorders. Thus, in this report, differences between subthreshold PTSD and traumatized persons without a PTSD-related disorder were less striking.

Consistent with other studies, the present report found that patients with subthreshold PTSD mostly met both the reexperiencing criterion and hyperarousal criterion, but not the three required avoidance symptoms necessary to meet DSM-IV criteria for full PTSD. Since the present report and other studies have found social and work impairment associated with subthreshold PTSD, the issue is raised concerning whether or not the DSM-IV criteria for the avoidance criterion for PTSD is too stringent. Lowering the requirements of the avoidance criterion would yield a greater prevalence of PTSD, lessen the prevalence of subthreshold PTSD, and, possibly, increase the clinical relevance of this subthreshold disorder.

The present report found that full PTSD was significantly different in indices of impairment or distress to traumatized persons without PTSD-related disorders (patients who met criteria for a range of other non-PTSD related psychiatric disorders), controlling for MDD and PD. This finding suggests that full PTSD is associated with a level of dysfunction that is of greater severity than other psychiatric disorders, in general. Also, this result provides some empirical validity for a diagnostic boundary between full PTSD and other psychiatric disorders, in general.

There are several limitations to this study. The findings of this study may not generalize to other traumatized populations, such as the general population, inpatients, or primary care patients. Also, a different definition of subthreshold PTSD to the one used in this report may have yielded contrary findings. In addition, this report’s use of the impairment/distress criterion for subthreshold PTSD may have obscured differences in social and work functioning between full PTSD and subthreshold PTSD. Another limitation of this report was the use of retrospective measures for social and work impairment with unknown psychometric properties. Finally, the use of cross-sectional data to examine the concept of subthreshold PTSD does not address the predictive validity of the concept or provide an empirical rationale for the decision to treat subthreshold PTSD. To better address these issues, longitudinal studies are needed that examine whether the presence of subthreshold PTSD prolongs the duration of comorbid psychiatric disorders and increases the risk of the onset of full PTSD or other disorders.

REFERENCES


