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The PCL as a brief screen for Posttraumatic Stress Disorder within Schizophrenia

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Abstract

Objectives: To assess the utility of using the Posttraumatic Checklist – Civilian Version (PCL-C) as a screening measure for identifying posttraumatic stress disorder (PTSD) in individuals diagnosed with a psychotic disorder.

Methods: The PCL-C was administered to 165 participants as part of a clinical trial. Those scoring 44 or above on the PCL-C underwent further assessment using the Clinician Administered PTSD Scale (CAPS-S).

Results: Overall 18.2% of the sample exhibited a diagnostic level of PTSD symptoms, as indicated by the CAPS-S assessment. Only 29.7% of those who scored above the PCL-C threshold were diagnostic of PTSD.

Conclusions: The use of PCL-C for identifying PTSD within this population is not recommended.

Keywords: posttraumatic stress disorder; schizophrenia; assessment; trauma; psychosis.
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Introduction

Recent studies have highlighted the prevalence of stressful and traumatic life events within individuals diagnosed with a psychotic disorder (Grubaugh et al. 2011). The prevalence of posttraumatic stress disorder (PTSD) as a co-morbid condition within this group has been estimated to be 12.4% (Achim et al. 2011). These studies have facilitated our understanding of psychotic symptoms within the context of traumatic events (e.g. Longden et al. 2012; Steel et al., 2005) and in the development of trauma-focused treatments for this population (Frueh et al. 2009; van den Berg et al. 2015). Epidemiological findings and therapeutic developments have contributed to recent calls for more trauma-informed mental health services (Rose et al. 2012) including the routine assessment of trauma history and current symptoms of posttraumatic stress. There is, therefore, a need for a brief screening instrument to identify those requiring trauma focused interventions.

Self-report measures of PTSD have acceptable psychometrics, in comparison to standardised interviews, within non-psychotic populations and can be used in routine clinical practice (Brewin 2005). However, potential limitations include respondents misunderstanding items and not discriminating accurately between PTSD symptoms and other difficulties (MacDonald and Calhoun 2010). These limitations may be particularly marked in the context of psychosis. There is considerable overlap between symptoms of psychosis and PTSD, with sensory-perceptual intrusions, hyperarousal, avoidance and dissociation common in both groups. During assessment, additional prompts may be needed to distinguish them from each other (Gearon et al. 2004). Even with prompting, respondents with psychosis may find it difficult to identify symptoms as being temporally anchored to a
specific traumatic event. Further, the content of psychotic symptoms can be of such a threat so as to constitute a traumatic event itself (Berry et al. 2013). Assessment for the symptoms of post-psychotic PTSD requires careful discrimination from other current symptoms of psychosis, which is not addressed in current self-report measures of PTSD.

There are some recent reports of good psychometric properties, including sensitivity and predictive validity, when using the PTSD Symptom Scale – Self Report (PSS-SR) (Foa et al. 1993) and the Trauma Screening Questionnaire (TSQ) (Brewin et al. 2002) within people diagnosed with a psychotic disorder (Sin et al. 2012; de Bont et al. 2015). However, to date there are no reports of the most widely used self-report screening tool, the Posttraumatic Checklist – Civilian Version (PCL-C) (Weathers et al. 1993), with this population. Mueser and colleagues (Mueser et al. 2001) found moderate to high convergent reliability of the PCL-C and Clinician Administer PTSD Scale (CAPS) in a sample (n = 30) with severe mental illness. However, only 27% of their sample had a diagnosis of schizophrenia.

Early research indicated that the PCL-C was 80% predictive of diagnostic status when using a threshold of 44 in individuals who have suffered a road traffic accident (Blanchard et al. 1996). However, subsequent research has used a wide range of cut-off scores depending on the operating characteristics required for individual studies. A recent review suggests there is no optimal cut-off (MacDonald and Calhoun 2010). The current study reports data from a randomised controlled trial where a PCL cut-off score of 44 is used to indicate more detailed assessment through clinical interview. The design of the parent study required that individuals who scored below PCL-C cut-off did not undergo further trauma assessment. Therefore, whilst the current study is the first to explore the utility of the
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PCL-C in identifying PTSD within individuals diagnosed with a psychotic disorder, we limit our focus to the rate of false positives rather than false negatives. In order to evaluate the impact of adopting a higher cut-off score, we also report data based on a threshold of 50.

Material and Methods

Participants

The current data was obtained as part of recruitment for a randomised controlled trial aimed at evaluating cognitive behaviour therapy as a treatment for the symptoms of posttraumatic distress within individuals diagnosed with a psychotic disorder (ISRCTN67096137). Inclusion criteria were a current DSM-IV (American Psychological Association, 1994) diagnosis of schizophrenia, schizoaffective disorder or schizophreniform disorder, being aged between 18 and 65, able to speak English and having stable living arrangements. Current diagnosis was established through access to health service records. Two-hundred and nine individuals provided informed consent to participate in the clinical trial. Forty-four potential participants did not report having experienced a traumatic event and where therefore excluded from further assessment, resulting in 165 participants who provided complete data sets in relation to assessment of traumatic symptoms.

Measures
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PCL-C part I was used to assess the prevalence of a range of traumatic life events. The original 16 items were extended to include two extra items relevant to the current population. Namely, the experience of threatening psychiatric treatment and the experiences of threatening psychotic experiences (Picken and Tarrier 2011). Part II of the PCL-C contains 17 items on a 5-point scale (range 17-85) as brief measure of posttraumatic stress symptoms.

Clinician Administered PTSD Scale for Schizophrenia (CAPS-S) (Gearon et al. 2004). The CAPS is a widely used clinical interview based on the DSM diagnostic criteria for PTSD. The CAPS-S is an adapted form of the CAPS (Blake et al. 1995) in which language has been amended for the target population.

Procedure

Participants first completed PCL-C part I where they reported which of the 18 stressful life events they had experienced, followed by identifying which of these events was causing them the most current distress. Part II of the PCL-C was then completed in relation to this item. Research assistants were present during the completion of the self-report scale, and when requested they clarified the meaning of the questions. If a participant scored 44 or above on part II of the PCL-C then further assessment was conducted using the CAPS-S.

Results
The 165 participants included 118 (71.5%) males and 47 (28.5%) females, and had a mean age of 41.85 (SD=10.05). The primary diagnosis was schizophrenia for 137 (83.0%) participants and schizoaffective disorder for 28 (17.0%). Eighty (48.5%) participants lived alone, 54 (32.7%) with a partner or family and 31 (18.7%) in shared or temporary accommodation. Ethnicity was stated as White 112 (67.9%), Black Caribbean 6 (3.6%), Black African 8 (4.8%), Indian 10 (6.1%), Pakistani 6 (3.6%), Bangladeshi 3 (1.8%), Chinese 1 (0.6%) and Other 16 (9.7%).

The assessment of trauma prevalence and the currently most distressing event is presented in Table 1. The mean number of stressful life events identified was 5.7 (SD=2.9, range = 1 to 15).

One hundred and one participants (61.2%) scored 44 or above on part II of the PCL-C in relation to their currently most distressing event, with the mean total being 49.6 (SD=17.1, range = 17 to 85). Of these 101, 30 (18.2% of the total sample) were rated as suffering from a diagnostic level of PTSD based on the CAPS-S assessment. Therefore, only 29.7% of the sample identified by using the PCL-C with this cut-off score were diagnostic of PTSD, with 70.3% being ‘false positives’.

When the cut-off score on the PCL-C was raised to 50 or above, 81 (49.1% of the total sample) participants were included. Of these 81, 28 (16.9% of the total sample) were rated as suffering from a diagnostic level of PTSD based on the CAPS-S assessment.
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Therefore, only 34.6% of the sample identified by using the PCL-C with this cut-off score were diagnostic of PTSD, with 65.4% being ‘false positives’. The total PCL-C score was significantly correlated with the total CAPS-S score ($r_s = 0.40$, $p<0.01$).

Given that 42.4% of participants identified the items ‘death of a close friend or loved one’ or ‘other’ as their index trauma, and that these items may be the least likely to meet criterion A for a PTSD diagnosis during a CAPS-S assessment, we reran our main analyses excluding these participants. The predictive validity at a cut-off of 44 reduced to 25%, and at a threshold of 50 reduced to 31%.

Discussion

We identified 18.2% of our sample as exhibiting diagnostic levels of PTSD when using the PCL-C with a cut-off score of 44, followed by further assessment with CAPS-S. However, if we had adopted a cut-off of 44 on the PCL-C alone as a diagnostic indicator, 61.2% of the sample would have been deemed to suffer from PTSD. This figure drops to 49.1% when using a PCL-C cut-off score of 50. Our results clearly indicate a large, and clinically unacceptable, number of false positives to occur when using this brief trauma screen to assess posttraumatic symptoms in a sample of people diagnosed with a psychotic disorder.

A clear limitation of the current study is that not all participants were assessed using the CAPS-S. Thus, we do not have complete data on false negatives. That is, there are likely to have been individuals scoring under 44 on the PCL-C who were exhibiting diagnostic levels of PTSD. Within the psychiatric system this would result in individuals requiring a trauma treatment being missed. However, this group is likely to be small given that only two
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participants from one-hundred and sixty-five scored between 44 and 50 on the PCL-C and subsequently revealed diagnostic levels of PTSD. Further, the clinical utility of the use of the PCL-C within this population is highly questionable based on the data from false positives alone.

The poor predictive validity of the PCL-C within people diagnosed with a psychotic disorder remains to be explained. The removal of participants most likely to be completing the PCL-C in relation to events which would not meet criterion A for a diagnosis of PTSD did not improve the performance. The approach adopted within the current study was for the PCL-C to be completed as self-report with minimal guidance from the attending research assistant. It is therefore likely, that without the clinical attention received during the CAPS-S assessment, that responses to some PCL-C items, e.g. ‘stalking’ and ‘threat of death/harm’ are likely to overlap with experiences of paranoia. However, threat within a psychotic experience would still have been included in the current study, although under a different item, and therefore this issue does not explain the poor predictive validity. Therefore, a likely reason for the inflated level of symptomatology identified using the PCL-C in this group is the potential for wider overlap between the symptoms of psychosis and PTSD. For example, the negative symptoms of psychosis, including social and emotional withdrawal, may have influenced responses to PCL-C part 2 items relating to emotional numbing and avoidance.

Our results have clear implications for the assessment of traumatic symptoms for the purpose of planning interventions within the psychiatric system. The CAPS-S is a detailed clinical interview which requires extensive training for those delivering it, and is unlikely to be widely adopted within routine clinical services. However, although further evaluation of the PCL-C is required in order to determine sensitivity and specificity, our findings suggest
that the PCL-C is not recommended as a screening tool for PTSD within people diagnosed with a psychotic disorder.

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**Statement of Interest**

The authors do not have any conflict of interest to report regarding this study.
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References


URL: http://mc.manuscriptcentral.com/ijpcp
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Table 1: Prevalence of stressful events and currently most distressing event (N = 165)

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<tr>
<th>Event</th>
<th>Percentage events identified</th>
<th>Percentage identified as currently most distressing event</th>
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<tr>
<td>1. Motor vehicle accident</td>
<td>29 (17.6%)</td>
<td>4 (2.4%)</td>
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<tr>
<td>2. Any other accident</td>
<td>22 (13.3%)</td>
<td>0 (0.0%)</td>
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<tr>
<td>3. Warfare or combat</td>
<td>7 (4.2%)</td>
<td>2 (1.2%)</td>
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<tr>
<td>4. Death of a close friend or loved one</td>
<td>107 (64.8%)</td>
<td>31 (18.8%)</td>
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<tr>
<td>5. Being robbed / present during robbery</td>
<td>34 (20.6%)</td>
<td>1 (0.6%)</td>
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<tr>
<td>6. Hit or beaten up by a stranger</td>
<td>75 (45.5%)</td>
<td>9 (5.5%)</td>
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<tr>
<td>7. Seeing a stranger attack someone</td>
<td>40 (24.2%)</td>
<td>0 (0.0%)</td>
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<tr>
<td>8. Threatened with death / harm</td>
<td>75 (45.5%)</td>
<td>10 (6.1%)</td>
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<tr>
<td>9. Childhood Physical Abuse</td>
<td>57 (34.5%)</td>
<td>5 (3.0%)</td>
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<tr>
<td>10. Witness Domestic Violence as a Child</td>
<td>62 (37.6%)</td>
<td>1 (0.6%)</td>
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<tr>
<td>11. Domestic Abuse</td>
<td>46 (27.9%)</td>
<td>5 (3.0%)</td>
</tr>
<tr>
<td>12. Sexual relations before 16 years with someone 5yrs older</td>
<td>37 (22.4%)</td>
<td>9 (5.5%)</td>
</tr>
<tr>
<td>13. Sexual abuse before 16 years by someone 5yrs older</td>
<td>28 (17.0%)</td>
<td>1 (0.6%)</td>
</tr>
<tr>
<td>14. Sexual abuse after 16</td>
<td>24 (14.5%)</td>
<td>11 (6.7%)</td>
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<tr>
<td>15. Being Stalked</td>
<td>52 (31.5%)</td>
<td>7 (4.2%)</td>
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<tr>
<td>16. Other Trauma</td>
<td>69 (41.8%)</td>
<td>39 (23.6%)</td>
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<tr>
<td>17. Threatening psychiatric treatment</td>
<td>83 (50.3%)</td>
<td>7 (4.2%)</td>
</tr>
<tr>
<td>18. Threatening experiences of psychosis</td>
<td>105 (63.6%)</td>
<td>23 (13.9%)</td>
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