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Stephanie Calderwood, Alison Rowlands and Trevor Harley

University of Dundee

Author Note

Stephanie Calderwood, student, Department of Psychology, University of Dundee; Alison Rowlands, Consultant Clinical Psychologist, Adult Psychological Therapies Service, Murray Royal Hospital, Perth; Trevor Harley, Professor of Cognitive Psychology, Department of Psychology, University of Dundee.

Correspondence concerning this article should be addressed to Stephanie Calderwood. Contact: stephaniecal@hotmail.co.uk.

Summary

An investigation into trauma symptom prevalence in a primary care population was conducted. Analysis of the data showed a prevalence rate of 48.3 per cent, along with a significant relationship between trauma symptoms and both psychological distress and depression.

Keywords: Trauma, trauma prevalence, PTSD, primary care,

Prevalence of trauma symptoms in primary care service users

referred to psychological services

Clinicians at the Adult Psychological Therapies Services (APTS) in Tayside have noted that a significant number of service users who are referred to them reported experiencing traumatic events which are negatively affecting their health. This was the case even for many service users who were not referred to the service for trauma related issues. The DSM-IV-TR categorises a traumatic event as an event where a person has been exposed to a situation which is extremely distressing, life-threatening or had a risk of serious injury (APA, 2000).Examples of this are serious car accidents, violent personal assaults, military combat, or natural disasters. Trauma can be assessed in two ways: the first is using a trauma exposure measure which identifies which traumatic events an individual has experienced; the second is by using apost-traumatic stress disorder (PTSD) measure which determines whether the person has PTSD symptoms related to the traumatic event.These symptoms include re-experiencing of the trauma (e.g. flashbacks, nightmares), emotional numbness and/or avoidance of reminders of the trauma, and increased arousal (e.g. poor sleep or concentration, hypervigilance, anger) (APA, 2000).

Due to the observations from Tayside clinicians, the first aim of this research study was to investigate their observation and determine the prevalence rate of trauma symptoms in Scottish primary care service users.

The second aim of the study was to determine whether the number of trauma symptoms would differ between individuals with different mental health diagnoses. This was due to the large body of research documenting the high comorbidity rates between PTSD and depression (e.g. Calabrese et al., 2011; O'Donnell, Creamer & Pattison, 2004), suggesting that individuals who are being referred to psychological services for depression may have a higher chance of also displaying trauma symptoms.

The final aim of the study was to determine whether trauma symptoms are associated with an individual's level of functioning and illness severity. This was due to research indicating that individuals who attend psychological services tend to show a range of poorer outcomes (including higher symptom severity, lower psychosocial functioning and more lifetime medical problems) when their mental health issue was comorbid with a diagnosis of PTSD (e.g. Campbell et al., 2007; Ginzburg, Ein-Dor& Solomon, 2010; Quarantini et al., 2010; Weisberg et al., 2002). Therefore, it may be beneficial for psychological therapy services to introduce a trauma screening measure to quickly identify any possible comorbidities. This can then help to steer treatment and potentially provide better outcomes for service users who present with more complex symptoms.

Method

Participants

Participants above the age of 18, or above the age of 16 if they had left education, who were referred to the Adult Psychological Therapies Service (APTS) in Tayside were included in the study. Initial assessment data was collected from service users whose first appointment with the APTS took place between March and July 2015.

Design and Measures

New service users at the APTS were given a set of questionnaires to complete before their first appointment with a psychologist measuring their trauma symptoms and illness severity:

Trauma Screening Questionnaire (TSQ) – a 10-item questionnaire, ranging from 0 to 10, used to screen for traumatic symptoms in survivors of all types of traumatic stress. It has five re-experiencing items and five arousal items. Each item requires only a 'yes' or 'no' response in order to indicate whether the service user has experienced any of the symptoms at

least twice in the past 2 weeks. If a person scores yes to six or more questions, this indicates that they have the potential for a diagnosis of PTSD.

Clinical Outcomes in Routine Evaluation-10 (CORE-10) – a 10-item questionnaire, ranging from 0 to 40, designed to be a short measure of psychological distress. Items cover anxiety, depression, trauma, physical problems functioning (day to day, close relationships, social relationships) and risk to self. It is scored from 0 to 4 (not at all to most of the time) to indicate how often any of the problems listed have been experienced over the last week.

Patient Health Questionnaire-9(PHQ-9) – a 9-item questionnaire, ranging from 0 to 27, used to detect depression. Each question gives a score of each of the 9 DSM-IV criteria for major depressive disorder (MDD). Items are scored from 0 to 3 (not at all to nearly every day) to indicate how often any of the problems listed have been experienced in the last 2 weeks.

In addition to these questionnaires, clinicians completed two measures relating to the service user's illness severity and general functioning:

Clinical Global Impression Severity Scale (CGI-S) – a 7-point scale, scored from 1 to 7, used by mental health clinicians to rate the severity of a service user's illness at the time of assessment. A higher score indicates a greater severity of illness.

Global Assessment of Functioning (GAF) – a numeric scale, ranging from 0 to 100, described in the DSM-IV-TR which is used by mental health clinicians to rate a service user's subjective social, occupational and psychological functioning at the time of assessment. A higher score indicates better functioning.

The scores for all of the questionnaires were recorded onto a research data sheet for each participant that was then given to the researchers. This research data sheet also contained demographic information about the service users as well as their ICD-10 diagnosis. All information on the research data sheet was anonymised.

Results

Demographic information

Demographic information on our sample can be found in Table 1. Of the 132 participants in the study, 65 per cent were female. Most of the sample was below the age of 45. The majority of the sample (67 per cent) was employed.

Chi-square and Fisher's exact tests revealed no significant gender differences between any of the demographic variables and no significant differences between any of the demographic variables in terms of the different diagnosis categories.

Insert Table 1 about here

Descriptive statistics and correlations

Table 2 contains the descriptive statistics for this study's data. Most participants reported experiencing moderate psychological distress (CORE-10 score between 15 and 20) and moderate depressive symptoms (PHQ-9 score between 10 and 14). Most participants were rated by their clinicians as being "moderately ill" (a CGI-S score of 4) and having moderate difficulty in functioning (a GAF score between 51 and 60). These scores are expected for a primary care population in Tayside which should be of mild to moderate severity with fairly good functioning. However, it is of note that the TSQ scores have a large range with participants scoring both 0 (no symptoms) and 10 (experiencing all listed symptoms).

Insert Table 2 about here

Table 3 shows the correlations between each of the study variables. Almost all questionnaire scores were moderately to highly correlated with each other (all p-values

<0.01). The only exception being TSQ scores which were not significantly correlated with CGI-S or GAF scores.

Insert Table 3 about here

Prevalence of trauma

The presence of trauma in our sample was determined by using the cut-off score specified by the TSQ (a score ≥6). The current prevalence rate of trauma symptoms was found to be 48.3 per cent.

Group differences in trauma symptoms between diagnoses

A one-way ANOVA was conducted to determine whether there was a difference in mean trauma symptoms between different diagnoses. All assumptions of independence, normality and homogeneity were met and indicated that a parametric analysis was appropriate. The mean TSQ scores can be seen in Figure 1. The results of the ANOVA were non-significant ($p=$ .143) with a small effect size of $\eta^2 = .054$. Thus there was no evidence that the number of trauma symptoms differs between diagnoses.

Insert Figure 1 about here

Trauma and illness severity

Regression analysis was chosen rather than correlation since it could estimate the magnitude of the potential effects of trauma symptoms on the variables.

A simple linear regression was conducted to determine whether trauma symptoms had an influence on a service user's illness severity. The regression model did not significantly predict illness severity ($p = .063$).

Further regressions were conducted to determine whether trauma symptoms influence psychological distress and depression, as measured by CORE-10 and PHQ-9 scores

respectively. The relationship between trauma symptoms and these two variables can be seen in Figures 2 and 3.

As shown in Table 4, trauma symptoms significantly predicted psychological distress ($p < .001$), explaining 16.1 per cent of the variance in psychological distress scores. There was found to be a significant medium to large positive correlation between the TSQ scores and the CGI-S scores ($r = .401$) whereby, as the number of trauma symptoms increase, the greater the psychological distress becomes.

Insert Table 4 about here

Insert Figure 2 about here

As shown in Table 5, trauma symptoms significantly predicted depression ($p = .007$), explaining 6.4 per cent of the variance in psychological distress scores. There was found to be a significant small to medium positive correlation between the TSQ scores and the CGI-S scores ($r = .401$) whereby, as the number of trauma symptoms increase, the worse the symptoms of depression become.

Insert Table 5 about here

Insert Figure 3 about here

Trauma and service user functioning

A simple linear regression was conducted to investigate whether trauma symptoms had an influence on a service user's functioning. The regression model did not significantly predict service user functioning ($p = .076$).

Discussion

Prevalence of trauma

This study found a current prevalence rate of 48.3 per cent for trauma symptoms (as defined by a TSQ score of ≥6) in people referred to primary care psychological services. Not only is this rate much higher than the prevalence rate of PTSD in the general population(Lukaschek et al., 2013; Spitzer et al., 2009; Smitherman & Kolivas, 2013); but it is also greater than the prevalence rate of PTSD (full and partial) in other primary care populations (Bruce et al., 2001; Liebschutz et al., 2007). This is to be expected since this study looked at trauma symptoms rather than using specific PTSD diagnosis criteria. This means that this study's estimates are likely to include service users who would not meet the criteria for PTSD but who are still experiencing negative outcomes in response to exposure to a traumatic event.

Care should be taken when comparing the results of this study to that of previous research which also used primary care samples. This is because primary care is defined differently in different healthcare systems. Even within Scotland, primary care service users are not completely synonymous due to the differing types of services available. Thus there is a possibility that these differences in sample characteristics may have an effect on the reported trauma prevalence.

Group differences in trauma symptoms between diagnoses

Perhaps it is not surprising that our study was unable to find any significant differences in trauma symptoms between mental health diagnoses. Research into PTSD has consistently found strong rates of comorbidity, not just between PTSD and depression but between PTSD and mood, anxiety and substance use disorders (Perkonigg, Kessler, Storz & Wittchen, 2000). However, this result could be due to limitations within the study. When recording a service user's diagnosis, some clinicians gave only the ICD-10 diagnosis code for

the general heading (e.g. F30 to signify a mood disorder) rather than the code for a specific

diagnosis (e.g. F33 for a recurrent depressive disorder) and this method of grouping

diagnoses may have been too broad to detect the differences between different disorders.

Trauma and illness severity

Our lack of evidence indicating a relationship between trauma symptoms and illness

severity goes against previous research (e.g. Quarantini et al., 2010). One possible

explanation for this result is that this study did not have enough power to detect a significant

effect. Alternatively, perhaps the association between trauma symptoms and symptom

severity is only significant in those with larger illness severities and is less of an issue for a

primary care population whose symptom severity tends to be mild to moderate.

While our study found no evidence of an association between trauma symptoms and

illness severity, it did find evidence of significant associations between trauma symptoms and

a service user's psychological distress and depressive symptomology, with trauma symptoms

explaining 16 per cent and 6 per cent of the variance in each variable respectively. This is in

line with previous research (e.g. Holtzheimer et al., 2005).

A possible confounding factor to these results is that this study found psychological

distress and depressive symptomology to be significantly correlated with every other variable

measured. Therefore, it is possible that the relationship between trauma symptoms and illness

severity is not direct but could be mediated or moderated by a service user's psychological

distress or depressive symptomology. However, it is impossible to determine the causality of

these relationships due to the correlational nature of this study.

Trauma and service user functioning

This study's failure to find a significant relationship between trauma symptoms and

service user functioning goes against previous research (e.g. Ginzburg, Ein-Dor & Solomon,

2010; Quarantini et al., 2010).Perhaps trauma symptoms must be severe enough to warrant a

PTSD diagnosis before they start to have an effect on service user functioning. Thus, our measurement of trauma symptoms would not have been sufficient on its own to highlight this relationship. Alternatively, due to the small effect sizes found, our analysis may have lacked sufficient power to detect any significant results.

Clinical implications

As this study found evidence that trauma symptoms may negatively affects someone's level of psychological distress and symptoms of depression, it may valuable for psychological services if clinicians started routinely screening for the presence of trauma symptoms during initial assessments. This may be beneficial to a service user's treatment by addressing their trauma which may otherwise stay undetected.

Conclusion

A significant number of primary care service users who are referred to psychological therapies services in Scotland are currently experiencing symptoms of trauma which is negatively affecting their level of psychological distress and depressive symptomology. Brief questionnaires which screen for trauma symptoms should be implemented in psychological services during initial assessments in order to detect and treat any current trauma symptoms with the aim of improving service user outcomes.

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    and posttraumatic stress disorder.*Psychiatric Services*, 53(7), 848-854.

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Tables

Table 1: Sample demographics

(Note - the overall sample size was 132 but due to missing data some of the total numbers for each demographic category vary slightly)

Demographic	Total Sample	Percentage
Age (n=131)		
16-24	30	22.9%
25-34	37	28.2%
35-44	30	22.9%
45-54	19	14.5%
55-64	15	11.5%
Occupation (n=129)		
Employed	86	66.7%
Unemployed	21	16.3%
Retired	1	0.8%
Student	12	9.3%
Other	9	7.0%
ICD-10 Diagnosis (n=112)		
Mood (affective) disorder	25	22.3%
Neurotic, stress-related or somatoform disorder	52	46.4%
Mood (affective) disorder & neurotic, stress-related or somatoform disorder	31	27.7%
Other disorder	4	3.0%

Table 2: Descriptive statistics of study variables

Variable	N	Mean	SD	Min	Max
CORE-10	128	20.20	7.929	1	37
PHQ-9	121	13.60	6.100	1	26
TSQ	116	4.84	3.456	0	10
CGI-S	128	3.91	.900	1	6
GAF	128	56.03	8.327	31	80

Table 3: Correlations between the study variables
*(Note: * p<.05, ** p<.01)*

	CORE-10			
PHQ-9	.783**	**PHQ-9**		
TSQ	.401**	.252**	**TSQ**	
CGI-S	.534**	.481**	.174	**CGI-S**
GAF	-.511**	-.384**	-.166	-.809**

Table 4: Summary of simple regression analysis for variables predicting psychological distress
*(Note: * p<.05, ** p<.01)*

Predictor	B	SE	β	
Intercept	15.720	1.125		
TSQ Score	.879	.189	.401**	
R^2				.161

Table 5: Summary of simple regression analysis for variables predicting depression
*(Note: * p<.05, ** p<.01)*

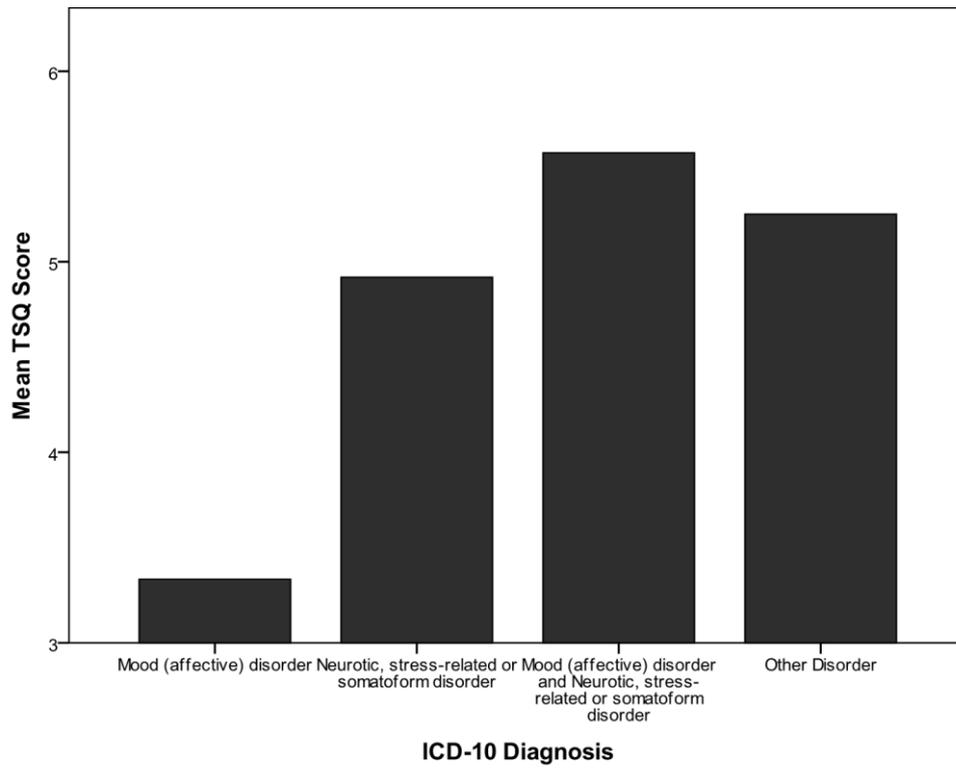| Predictor	B	SE	β	
Intercept	11.212	.950		
TSQ Score	.435	.159	.252**	
R^2				.064

Figures

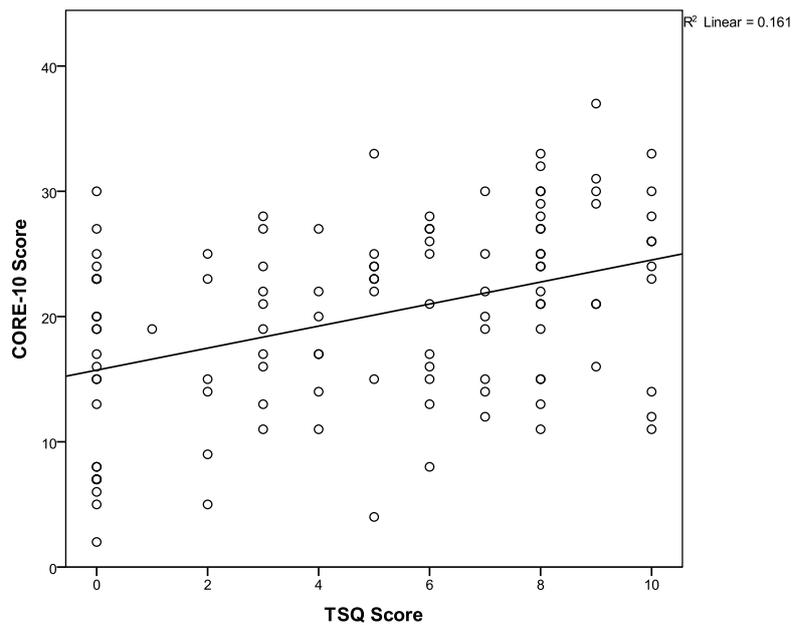Figure 1: Mean trauma symptom scores by ICD-10 diagnosis category

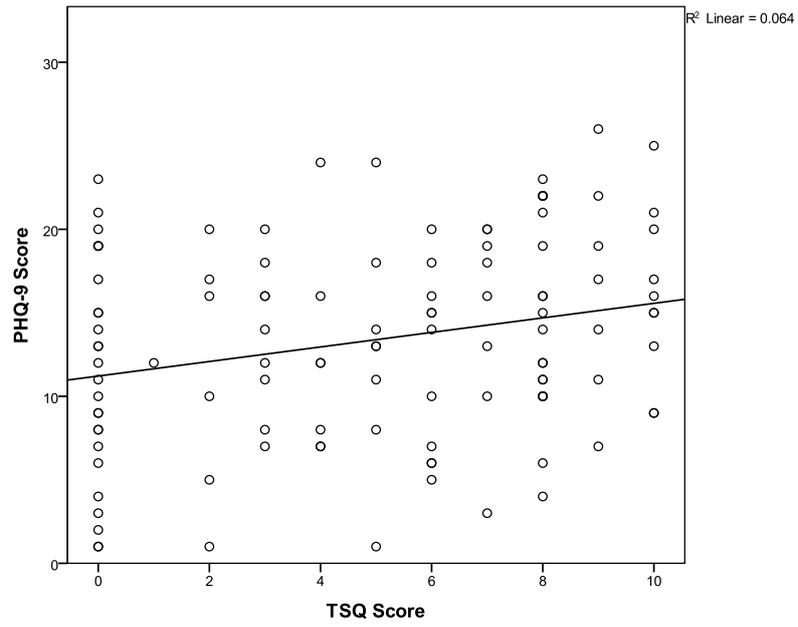Figure 2: Relationship between trauma symptoms and psychological distress scores

Figure 3: Relationship between trauma symptoms and depression scores