

# Treating Co-Occurring Posttraumatic Stress Disorder and Substance Use Disorders In An Outpatient Setting in New Zealand

David M. Benton, *Hanmer Clinic Tauranga*

Daryle E. A. Deering, *University of Otago*

Simon J. Adamson, *University of Otago*

Victimisation, violence, and trauma are often a part of the life history of individuals with substance use disorders (SUDS), with the disorders of posttraumatic stress disorder (PTSD) and substance abuse commonly occurring together. This comorbidity has been found to have a negative impact on the course, treatment outcome, and prognosis of both disorders, and thus the development of treatments specifically tailored to address trauma-related issues during early recovery is clinically important. This study, the first such in a New Zealand setting, was a naturalistic study of a manualised therapy programme - *Seeking Safety* - for a group of 20 women with co-existing PTSD and SUDS in an outpatient setting. Assessment took place at intake, and the end of treatment, and at six months, with each set of questionnaires being self-completed by the participants. In general, the results demonstrated a small but positive treatment effect which was sustained over the six months with significant improvements occurring in domains measuring active PTSD symptoms, comfortableness with self and others, psychosis, some trauma symptoms, and fluctuating results in substance use. These New Zealand findings are consistent with other research findings, both for treatment of co-occurring PTSD and SUDs in general, and for *Seeking Safety* in particular.

The incidence of anxiety disorders including post traumatic stress disorder (PTSD) is very high among women who abuse alcohol and/or other drugs (Briere & Runtz, 1987; Najavits, Weiss, & Shaw, 1997; Paone, Chavkin, Willets, Friedman, & Jarlais, 1992), and data from the US National Comorbidity Survey (Kessler, Berglund, Demler, Jin, Merikangas, & Walters, 1995), an Australian epidemiological study (Mills, Teesson, Ross, & Peters, 2006) and a New Zealand study of alcohol and drug treatment patients found one third were diagnosed with current PTSD (Adamson, Todd, Sellman, Huriwai, & Porter, 2006).

The co-existing disorders of PTSD and SUDS have deleterious effects on the social, psychological and physical wellbeing of sufferers, predict poorer treatment outcomes (Brown, Stout, Mueller 1999; Najavits, Weiss, Shaw, Muenz, 1998; Rosen, Ouimette, Sheikh,

Gregg, & Moos, 2002), and tend to persist over many years (Bartels, Drake, & Wallach, 1995). The presence of PTSD is consistently associated with poorer addiction treatment outcomes, and is related to distinct barriers to treatment such as failure to assess PTSD, failure to address or refer to treatment for PTSD issues, and on the part of the patient, emotional pain, shame, and self blame (Ouimette, Brown & Najavits, 1998). Study findings consistently reveal a very vulnerable population with extensive histories of abuse, substantial physical and mental health service needs, and women who often use numbers of different services in an attempt to find help and/or relief (Becker, Noether, Larson, Gatz, Brown, Heckman, & Giard, 2005).

Compared to experiencing either disorder alone therefore, the combination of PTSD and SUDS is marked by a more severe clinical profile

and significantly greater impairment on a wide range of variables, including interpersonal and medical problems as well as motivation for treatment and treatment adherence (Brady, Killeen, Saladin, Dansky, & Becker, 1994; Brown, Stout, Mueller, 1999; Najavits, Weiss, & Shaw, 1999). As therapy patients, those with co-occurring PTSD and SUD are anecdotally reported to be very difficult, have fragile treatment alliances and evoke negative emotional responses by therapists (Cramer, 2002). Moreover, PTSD, unlike many other disorders, is widely reported to worsen in early abstinence, making treatment of the SUD particularly challenging (Brady et al., 1994; Freidman and Yehuda, 1995). This may in part be due to the symptoms of substance withdrawal being similar to the arousal symptoms of PTSD (Jacobsen, Southwick, Kosten, 2001), i.e. difficulty sleeping, agitation, anxiety, autonomic hyperactivity or restlessness, tremors, and nausea.

Although consensus is lacking regarding best practices a number of integrated psychosocial treatments (e.g., *Seeking Safety*, Substance-Dependence PTSD Therapy, Concurrent Treatment of PTSD and Cocaine Dependence) have shown empirically supported promise in reducing symptoms of both disorders (Back, 2006). Evidence regarding integrated treatment for those with co-existing disorders is consistent and positive (Kofod, Friedman, & Peck, 1993; Brady et al., 1994; Brown, Recupero, & Stout, 1995). However, while there are recently published guidelines on the assessment and management of people with co-existing mental health and substance use problems (Todd, 2010), there is to

date no published New Zealand studies that have investigated the provision of integrated treatment, despite the same levels of acuity.

The aim of the present study was to evaluate outcomes of a manualised psychotherapy programme, *Seeking Safety* which was designed for women who present with concurrent PTSD and SUDS (Brown, Recupero, & Stout, 2002; Najavits Drake, & Wallach, 2002), and eleven published outcome studies establishes its efficacy as a treatment of co-existing PTSD and SUDS (e.g. Hien, Cohen, Miele, Litt, Capstick, 2004; Morrissey, Jackson, Ellis, Amaro, Brown, Najavits, 2005; Desai & Rosenbeck, 2006; Najavits, 2007).

This study, the first such in New Zealand, was a naturalistic feasibility study of *Seeking Safety*, and was conducted at Hanmer Clinic which provides intensive alcohol and drug outpatient treatment programmes in Tauranga, New Zealand. Ethical approval for the study was granted by the Northern Y Regional Ethics Committee, Ministry of Health, Hamilton.

## Method

### Sample

The study sample comprised 20 women who were clients of Hanmer Clinic Tauranga, who met the inclusion criteria for the study (current DSM-IV criteria for both PTSD and SUDS) and who attended at least one session of the treatment. Participants were free to choose to participate in the programme or could withdraw at any stage without in any way affecting their ability to access the standard Hanmer Clinic Treatment programmes, or to be referred to other treatment providers.

Exclusion criteria were a history of schizophrenia, active bipolar disorder, or characteristics that would interfere with completion of treatment such as impending incarceration, or a life threatening/unstable medical illness. Psychotic-type symptoms may occur either as a component of PTSD or heavy substance use (Caton, Drake, Hasin, Dominguez, ShROUT, Samet, & Schanzer, 2005; Lindley, Carlson, & Sheikh, 2000) and therefore these symptoms were

measured.

The sociodemographic characteristics of the group, both in terms of age and ethnicity, were representative of the female population that attends Hanmer Clinic Tauranga. Ethnically, 70% identified as European / pākehā, 25% Māori, and 5% of Pacific Island descent. At the start of the programme, the age range of the participants was 26-61 years, with a median age of 41. Ten participants (50%) were single, four (20%) were married, three (15%) were divorced, and three (15%) were separated. Eight participants (40%) had dependent children. When the programme commenced, seven were in employment: one in full time employment and six (30%) in part time employment. Six (30%) were receiving an unemployment benefit, and seven (35%) were receiving a sickness benefit.

### Seeking Safety Programme

*Seeking Safety* is a group programme designed for flexible use and consists of up to 25 topics evenly divided among cognitive, behavioural, and interpersonal domains, and these are well explained elsewhere (Center for Substance Abuse Treatment, 2005; Najavits, 2003; Najavits et al., 2002). Each session of Seeking Safety has an identified "topic" (e.g., asking for help, self-nurturing) that addresses themes relevant to both PTSD and SUDS such as self-control, coping strategies, cognitive distortions, identification of beliefs, reformulating and restructuring, and relapse prevention. The content incorporates cognitive, behavioural, interpersonal and case management approaches. The programme was run twice, with each group consisting of 10 women. Weekly sessions were facilitated by the same senior counsellor, and lasted for 90 minutes, with a progress update provided by each participant, addressing a topic from the manual, and ending with a commitment by each participant to practice/focus on a particular aspect of the programme which was of importance to them in the period before the next session.

### Data Collection

Assessments were conducted with participants at intake, end of treatment, and at six months after completion

with each set of questionnaires being self-completed by the participants. The following measures were used:

1. The Behavior and Symptom Identification Scale (BASIS-32) is designed to assess change in patients' behaviour and symptom difficulty between the beginning of a treatment episode and subsequent follow-up points. It has been used in a variety of studies and has demonstrated validated consistency and reliability in both inpatient and outpatient settings (Eisen, 1998; Eisen, Dill, & Grob, 1994; Klinkenberg, Cho, & Vieweg, 1998; Kramer, Daniels, Ziemann, Williams, & Dewan, 2000).

2. The Modified PTSD Symptom Scale (MPSSR) measures severity of PTSD symptoms, and can be used to determine the presence of symptoms that meet the criteria of PTSD. The MPSSR has demonstrated good internal consistency reliability (Coffey, Dansk, Falsetti, Saladin, & Brady, 1998; Falsetti, 1997; Falsetti, Resnick, Resick, & Kilpatrick, 1993).

3. The Trauma Symptom Checklist-40 (TSC-40) evaluates symptomatology in adults associated with childhood or adult traumatic experiences. Studies using the TSC-40 indicate that it is a relatively reliable measure and has predictive validity for a wide variety of traumatic experiences (Briere & Runtz, 1989; Elliott & Briere, 1991, 1992; Gold, Milan, Mayall, & Johnson, 1994).

4. Substance use and general health were measured using Part A of the Alcohol and Drug Outcome Measure (ADOM) (Pulford, Deering, Robinson, Wheeler, Adamson, Frampton, Dunbar, & Paton-Simpson, 2010), a reliable and valid measure of substance use, which is measured as days using in the past four weeks for a range of substances, with nicotine use measured by average number of cigarettes per day.

5. Patient satisfaction with treatment was assessed by the Treatment Perceptions Questionnaire (TPQ), a brief 10-item measure of consumer satisfaction designed specifically for use with alcohol and drug treatment clients (Marsden et al., 1998). Higher scores reflect greater satisfaction. The TPQ has

Table 1. Summary of results from the Behaviour and Symptom Identification Scale (BASIS-32)

	Baseline (n=20)		End of treatment (n=20)		6 month follow-up (n=17)	
	Mean	SD	Mean	SD	Mean	SD
Relation to self and others	18.9	3.9	17.9	5.8	12.9**	5.6
Depression/anxiety	13.9	4.3	13.5	5.4	11.9	4.6
Daily living /role functioning	14.0	4.3	15.9	5.2	13.6	5.7
Impulsive/addictive behaviour	9.8	2.4	8.8	2.5	9.9	3.5
Psychosis	6.5	1.7	5.8	2.2	5.0*	1.4

\*  $p < .05$  \*\*  $p < .01$ ; all pairwise comparisons with baseline score

Table 2. Summary of results from the Modified PTSD Symptom Scale (MPSSR)

	Baseline (n=20)		End of treatment (n=20)		6 month follow-up (n=17)	
	Mean	SD	Mean	SD	Mean	SD
Total	48.1	11.8	40.1	14.3	36.5*	13.8
Re-experiencing	15.0	3.9	12.3	4.1	11.2*	3.3
Avoidance	19.3	6.0	15.4	6.0	14.5	6.4
Arousal	14.2	4.3	12.4	5.3	10.8*	5.3

\*  $p < .05$ ; all pairwise comparisons with baseline score

Table 3. Summary of results from the Trauma Symptom Checklist-40 (TSC40)

	Baseline (n=20)		End of treatment (n=20)		6 month follow-up (n=17)	
	Mean	SD	Mean	SD	Mean	SD
Dissociation	6.3	2.5	6.8	2.9	5.3	3.6
Anxiety	7.6	4.2	7.4	4.8	5.6	3.8
Depression	13.4	4.2	12.5	4.3	7.6*	5.1
Sexual Abuse Trauma Index	6.9	3.5	7.3	3.5	4.4	3.5
Sleep Disturbance	10.8	4.1	10.8	4.3	5.8*	4.7
Sexual Problems	6.3	5.9	6.7	5.5	4.2	4.7
Total Score	45.9	17.4	44.7	14.6	30.5	20.0

\*  $p < .05$  all pairwise comparisons with baseline score

Table 4. Summary of results from the Alcohol and Drug Outcome Measure (ADOM) measuring substance by days used in the past four weeks (nicotine by cigarettes per day)

	Baseline (n=20)		End of treatment (n=20)		6 month follow-up (n=17)	
	Mean	SD	Mean	SD	Mean	SD
Alcohol, (N=15)	3.3	4.8	1.7	2.4	11.1 (N=13)	12.0
Cannabis, (N=7)	1.6	2.4	1.2	2.2	8.6	9.8
Opioids, (N=2)	0	0	0	0	9.0	8.5
Sedatives, (N=3)	0	0	0	0	20.7	7.0
Cigarettes, (N=16)	12.9	6.7	13.4*	6.7	8.8* (N=13)	7.9

\*  $p < .05$  all pairwise comparisons with baseline score

demonstrated satisfactory psychometric properties in a range of settings (internal reliability, test-retest and inter-rater reliability, cross-cultural validity (Marsden et al., 2000). For this study space was provided for participants to offer individual comments.

### Data Analysis

All data were analysed in SPSS 13.0 for Windows. *T*-Tests were undertaken for normally distributed repeat variables, and Wilcoxon Signed Ranks Test for continuous variables that were not normally distributed. The McNemar test was used for change in proportions. Effect sizes were calculated for paired data, so in contrasts involving six month follow-up data the stated effect size will vary from what might be apparent from figures presented in the tables.

### Results

All 20 participants completed the programme, with 85% completing the six-month questionnaires. Treatment satisfaction was high as measured by the TPQ, with all ten items receiving a maximum rating by 75% or more of the participants.

Table 1 presents a summary of the Behavior and Symptom Identification Scale (BASIS-32) results. The mean scores representing the degree of difficulty experienced in relating to self and others did not change significantly during treatment but improved significantly ( $t=3.47$ ,  $df=16$ ,  $p=.003$ ) from baseline to six months. There is improvement shown by changes in the scores for difficulty experienced with psychosis; again significant only when comparing baseline and six month follow up ( $t=2.76$ ,  $df=16$ ,  $p=.014$ ). Although the mean scores for the degree of difficulty experienced with depression and anxiety indicate there is a slight downward trend towards improvement with a moderate effect size ( $ES=0.56$ ) between baseline and six month follow-up, this reduction was not significant ( $t=1.52$ ,  $df=16$ ,  $p=.147$ ). There is no significant difference in the scores for daily living and role functioning nor for impulsive/addictive behaviour.

Table 2 presents a summary of

the Modified PTSD Symptom Scale (MPSSR). A score of 48 or more indicates the presence of PTSD (Falsetti et al., 1993). The proportion scoring above the cut-off fell from 50% at baseline to 25% at the end of treatment and 24% at follow-up. Changes in mean score (48.1 - 40.1 - 36.5) show that at the completion of treatment the sample mean drops below the cut-off score of 48. While this trend downwards indicates improvement ( $ES=0.66$ ) it is not statistically significant ( $t=1.70$ ,  $df=19$ ,  $p=.106$ ). However, a significant move towards improvement from baseline occurred at the six-month follow up ( $t=2.40$ ,  $df=16$ ,  $p=.029$ ).

The score for Re-experiencing indicates how much difficulty is had with recurrent and intrusive distressing recollections, distressing dreams, acting or feeling as if the traumatic event were recurring, and psychological or physical distress at exposure to cues. This result shows a statistically significant reduction (15.0 - 12.3 - 11.2) at the six-month follow-up ( $t=2.83$ ,  $df=16$ ,  $p=.012$ ), and indicates that the severity of the re-experiencing events is diminished.

The score for Arousal (difficulty with symptoms such as falling or staying asleep, irritability or outbursts of anger, or concentrating, as well as experiencing hyper vigilance and an exaggerated startle response) shows a statistically significant reduction from baseline to six month follow-up ( $t=2.17$ ,  $df=16$ ,  $p=.046$ ).

The score for Avoidance (difficulty with thoughts, feelings, or conversations, activities, places, or people that arouse recollections of the trauma, reduced interest or participation in significant activities, feeling detached from others, or difficulty with a restricted range of affect) shows a trend downwards (19.3 - 15.4 - 14.5,  $ES=0.77$ ), but is not statistically significant ( $t=2.02$ ,  $df=16$ ,  $p=.061$ ).

Table 3 presents a summary of the Trauma Symptom Checklist-40 (TSC-40) results. The total score (45.9 - 44.7 - 30.5) changed little over the course of treatment, while there was a trend for improvement ( $ES=0.83$ ) from baseline to the six month follow-up, this change was not statistically significant ( $t=1.82$ ,

$df=16$ ,  $p=.088$ ).

No significant change occurred in dissociation, anxiety, sexual abuse trauma index, or sexual problems. Depression (13.4 - 12.5 - 7.6) showed a significant improvement from baseline to six months ( $t=2.86$ ,  $df=16$ ,  $p=.011$ ).

The scores for Sleep Disturbance (10.8 - 10.8 - 5.8) remained constant over treatment but showed a significant trend towards improvement at the six months follow-up, both from baseline ( $t=2.91$ ,  $df=16$ ,  $p=.010$ ) and from the end of treatment ( $t=3.65$ ,  $df=16$ ,  $p=.002$ ).

Table 4 summarises the results of the ADOM which assesses substance use. Alcohol use dropped slightly, from a mean of use on 3.3 days in the last four weeks to 1.7 days in the last four weeks over the course of treatment, but at the six month follow-up alcohol use had increased to 11.1 days in the last four weeks. Whilst this increase was not significantly different from baseline ( $Z=-1.96$ ,  $p=.050$ ) to end of treatment, the increase between the end of treatment and the six month follow-up was significant ( $Z= -2.40$ ,  $p=.017$ ). There was no significant change for cannabis, opioids or sedative use. The opioid use reported at follow-up was over the counter medicines containing codeine for legitimate pain management. Nicotine use (12.9 - 13.4 - 8.8) showed a slight but significant increase in cigarettes used per day over the treatment period ( $Z= -2.10$ ,  $p=.036$ ). There was a significant decrease in cigarettes used per day from the end of treatment to the six month follow-up ( $Z= -1.97$ ,  $p=.049$ ). While the percentage using changed from 75% at baseline to 47% at the six month follow-up, this was not statistically significant (McNemar test,  $n=17$ ,  $p=.219$ ).

### Discussion

This naturalistic study of 20 women who participated in the Seeking Safety programme demonstrates an overall positive treatment effect which was in general sustained over the six months. This is consistent with other research findings, both for treatment of co-occurring PTSD and SUDs in general (Back, 2010; Bradley, Greene, Russ, Dutra, & Westen, 2005), and for *Seeking*

*Safety* in particular (Hien et al., 2004; Najavits, 2007).

The treatment programme resulted in an overall improvement in terms of reduction in the severity of PTSD symptoms, difficulty with symptoms, behaviour, and interpersonal functioning. Typically these improvements were more marked at the six month follow-up period, which suggests that application of insights and skills learned during the programme may have taken time to be applied.

Although it is encouraging that in the short-term this programme can have an impact on symptoms of PTSD and substance use disorders in this population, the mixed effect on substance use, and symptoms such as impulsive and addictive behaviours raises clinical and empirical questions, and underlines the fact that the scope and chronic nature of these problems are challenging for clients, treatment clinicians and researchers alike.

While substance use diminished over the treatment period, it did increase markedly after six months for some participants. At the end of treatment (three months post baseline), the participants showed significant reductions in symptoms of PTSD and alcohol use, with a slight increase in cannabis use. At the six month follow-up period, alcohol use and cannabis use had increased, with six (35%) of the seventeen clients accounting for the increase in alcohol use, and four (24%) accounting for the increase in cannabis use. Other studies have found that female patients with a comorbid diagnosis of PTSD and SUDS had high rates of relapse on alcohol and/or drugs during the follow-up period (Brown, 2000; Ouimette, Brown, & Najavits, 1998; Stewart, Conrod, Barton, Samoluk, Pihl, & Dongier, 2000).

However, PTSD symptoms improved or did not get worse, as might be expected with increased alcohol and other drug use. This increase in substance use would seem to run counter to the improvements gained in behaviour and lessened difficulty experienced with trauma related symptoms, and raises issues which are worthy of closer examination.

Unlike other mental health disorders, PTSD may actually get worse following abstinence from substances (Najavits, 2005). Typically, withdrawal from long term substance use results in heightened emotional sensitivity (Fox, Hong, & Sinha, 2008). Stress exacerbates emotional dysregulation (McMahon, 2001) and may exacerbate PTSD symptoms, thereby contributing to a relapse of substance use (Jacobsen, Southwick, & Kosten, 2001). In part this is to be expected, as the exploration of the neurobiology of substance use disorders and mood and anxiety disorders have found that the neural circuitry in these disorders is clearly overlapping (Brady & Verduin, 2005). Thus it is no surprise that patients with these co-existing disorders report that CNS depressants, such as alcohol, cannabis, opioids, and benzodiazepines, acutely improve PTSD symptoms (Bremner, Southwick, Darnell, & Charney, 1996), or that PTSD-related negative emotions may play an important role in the maintenance of alcohol dependence (Coffey, Saladin, Drobos, Brady, Dansky, & Kilpatrick, 2002).

Although the treatment programme did not focus on nicotine use, nicotine use in fact diminished slightly over treatment, and more so after six months. Any nicotine use is worrying from a health view point, but this result was of note, especially as the National Comorbidity Survey (NCS) showed that the prevalence of smoking in those with PTSD is over 45% nationwide in the USA, compared to 23% for the adult population at large (Kessler, et al., 2005). The high concurrence of PTSD and smoking is similarly evident among recently traumatized individuals (Dumaine, 2003).

Symptoms associated with PTSD reduced significantly by the six month follow-up, building on a non-significant reduction for all MPRSSR scales during the treatment phase. The TCS40 also showed improvements at follow-up. This may indicate that the programme had a lasting effect, at least in the short term, and this would follow the trend of other programmes targeting co-existing PTSD and SUDS (Najavits, Weiss, Shaw, & Muenz, 1998), and where treatment is sustained over a longer

period (Ouimette, Moos, & Finney, 2000b; Scott, Dennis, & Foss, 2005).

While the gains in the individual criteria are modest, this may be explained by some of the long lasting effects of neurobiological changes which are associated with PTSD and childhood abuse (Nutt & Malizia, 2004) such as the development of a cue-induced automatic response, as also occurs with addiction (Grille, 2003; Roberts & Koob, 1997). This will lead to avoidance activities, or to impulsive/addictive behaviours, which as the BASIS-32 results show, did not change during treatment, indicating their durability or resistance to treatment processes. This was echoed in the TSC-40 findings for Dissociation and Sexual Problems which likewise showed little improvement, and which given the high proportion of childhood sexual abuse in the treatment sample is not surprising.

The BASIS-32 results for relationship to self and others showed a small improvement over treatment, and a significant improvement at the six months follow up, which is heartening given that both PTSD and SUDS impair relationships with others and have a negative impact on self-esteem. It is not clear if this result reflects the group effect on participants, or an effect of the principles and skills learnt and practised in the group.

The BASIS-32 results for impulsive and addictive behaviour showed little change, as did the measure for daily living and role functioning. It is possible that the former would undermine progress with the latter. Furthermore, research conducted by Najavits et al. (2004) indicates a consistent, pervasive, and high level pattern of cognitive distortions in a sample of women with co-existing PTSD and SUDS. Modification of these cognitive and behavioural patterns takes time, and the lack of progress in these categories at the six month follow-up may indicate that more and longer treatment is required for cognitive restructuring to occur.

There were a number of limitations to this study with respect to its ability to demonstrate the effectiveness of *Seeking Safety*. The study relied on a naturalistic, non-random design and had a small number of participants, reducing power and contributing to the

small number of statistically significant treatment effects. The small sample size meant that reductions in symptoms with moderate effect sizes were not significant.

The absence of a control condition means that although the women improved it has not been demonstrated that they would not improve anyway with the passage of time, or due to the assessment alone, although given the treatment history of these women, the chronicity of PTSD, and the early age of trauma in most cases, this is unlikely. Nor do these data demonstrate that *Seeking Safety* is a more effective than other possible treatments. A randomised control trial would help explore this further.

As this study focussed specifically on PTSD and SUDS, one area that was not explored was the connection between trauma and other disorders, including eating disorders and personality disorders. This connection is significant and does require attention in clinical settings (Briere & Spinazzola 2005, Briere & Scott 2006).

Neither does this study demonstrate that *Seeking Safety* is necessarily the best or only effective approach. While some studies show that any treatment does make some difference (Cocozza, Jackson, Hennigan, Morrissey, Reed, Falot, & Banks, 2005), though not to all problem domains (Cohen & Denise, 2006), and that various types of treatment (e.g. Twelve Step or CBT) show similar results (Ouimette, Finney, & Moos, 1997), others recommend integrated treatment approaches that address both PTSD and SUDS (Center for Substance Abuse Treatment, 2005; Morrissey, et al., 2005). This approach is supported by recently published New Zealand guidelines which argue for integrated treatment for people with co-existing substance use and mental health problems (Todd, 2010).

Several of the study participants participated in other concurrent Continuing Care programmes, as well as attending Alcoholics Anonymous or Narcotics Anonymous, and several were either on medication at the start of treatment or were prescribed medication during the duration of the treatment programme. It is not at this point known

to what extent any of these factors may have influenced the outcomes for individuals. In particular when considering the markers for depression and anxiety measured by both the TSC-40 and the BASIS-32, it should be noted that several of the participants were on medication (mainly SSRI's) as part of their management plan, and this could well have affected the results. However, information was not gathered on medication adherence.

## Conclusions

The findings of this current study are in line with other research evidence on the efficacy of "Seeking Safety" in particular, and of integrated treatment for co-existing PTSD and SUDS in general (Kofoed et al., 1993, Brady et al., 1994, Brown, Recupero, & Stout, 1995). The treatment was well attended and positively rated by participants. Although there is no comparison condition to ensure against natural remission, significant improvements were demonstrated across a range of domains. PTSD and substance misuse are persistent illnesses and left untreated improvements of the magnitude demonstrated here are unlikely to have occurred without intervention.

Since findings about PTSD and SUDS consistently reveal a very vulnerable population with extensive histories of abuse, substantial physical and mental health service needs, it would seem imperative for Mental Health and Addiction services in New Zealand, and the burgeoning Addictions and Mental Health services within Corrections to screen for, assess, and address these disorders as a matter of course.

Of note is the client response to the quality of care, competence, and professionalism of the staff, which reflects the growing body of evidence of the importance of clinical competence and attitudes for treatment outcomes (Najavits, Crits-Christoph, & Dierberger 2000).

While this feasibility study demonstrated that *Seeking Safety* is appropriate in a New Zealand alcohol and drug treatment service, the challenge remains in promoting such interventions to occur in wider clinical practice, given funding and resource

constraints. A formal effectiveness trial in New Zealand, with a treatment as usual control group, could overcome the limitations described above and, if positive results were achieved, would provide support of the wider adoption of this treatment modality.

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**Corresponding Author:**

David Benton  
Hanmer Clinic Tauranga  
PO Box 9164  
Greerton  
Tauranga 3112  
david@hanmerclinic.co.nz