# Table of Contents

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black et al</td>
<td>Introducing the Matrix methamphetamine treatment program to Australia: The pilot, development of the Australian Matrix protocol, establishment of the national Matrix network and some preliminary research findings from South Australian multisite trials.</td>
<td>4</td>
</tr>
<tr>
<td>Lachter, B</td>
<td>Addiction as the Shadow Cast by Trauma</td>
<td>24</td>
</tr>
<tr>
<td>Raidu, R</td>
<td>Importance of clinical supervision in prevention of vicarious trauma for staff who case manage drug and alcohol clients</td>
<td>35</td>
</tr>
</tbody>
</table>

**PEER REVIEWED**
Introducing the Matrix methamphetamine treatment program to Australia: The pilot, development of the Australian Matrix protocol, establishment of the national Matrix network and some preliminary research findings from South Australian multisite trials.

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Affiliations: ¹PsychMed is a non-government organisation, which provides fee-free clinical services, professional training and collaborative research trials for Commonwealth and State Government programs.

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About the Program: A three-year commonwealth government funded trial to establish the intensive community-based Matrix model methamphetamine treatment program in Australia.

The National Matrix Network: Dr Quentin Black, Dr Emily Watson, Dr Phil Townshend (SA), Kerryn Ashford-Hatherly (WA), Michael Tunnecliffe (WA) James Hoey (QLD) (For further information about the National network or training accreditation or participation please contact Dr Black (quentinblack@bigpond.com).
Introducing the Matrix methamphetamine treatment program to Australia: The pilot, development of the Australian Matrix protocol, establishment of the national Matrix network and some preliminary research findings from South Australian multisite trials.

Abstract: Methamphetamine use is on the rise in Australia and is of increasing concern. This methodological paper discusses the introduction and transformation of the Matrix programme to Australia, which was established in the United States of America. The MATRIX program is a multimodal structured community based intensive treatment program for methamphetamine users initially developed by the US Centre for Substance Abuse Treatment. In 2016, PsychMed successfully tendered Adelaide Public Health Network to provide Commonwealth funding for a three-year multisite trial in South Australia across northern, southern and central Adelaide suburbs. After an initial pilot the Matrix programme was modified to incorporate Australian language and statistics, extra modules, male gender groups, online ‘apps’, lived experience mentors and was extended from a 16-week program to a 20-week program. Each week there are two sessions discussing early recovery skills and relapse prevention, and one session for gender specific recovery issues, Family Education and social support. Following the 20-week program there is an additional 104 weeks of social support. Measures collected from each participant include the K10, DASS21, OTI, SDS, VAS craving scale, Time line follow back, Buss Perry aggression scale, WHOQoL BREF and outcome data from weekly use self-report and drug screens. The initial results show a significant decline in methamphetamine use for participants with 55% indicating remission during the intensive period. Future analyses will be able to determine the full effect of the Matrix program. Overall, the Adelaide based Matrix program appears to be successful in overcoming methamphetamine dependence, and we look forward to further investigating the success of the program as it rolls out across Australia.

Keywords: drug-use, drug-treatment, amphetamine, drug-programs, addiction
Introduction

Globally, methamphetamine use is estimated at between 13.9 and 53.4 million people (UN 2015), with an estimated 17.2 million people having dependence (Degenhart et al., 2010). In Australia, 6.3% of the population over 14 years of age have used methamphetamines in their lifetime, with 1.4% having used it in the last 12 months (Australian Bureau of Statistics [ABS], 2016). The main use of the substance is in the form of methamphetamine hydrochloride, also known as ‘crystal meth’ or ‘ice’, a more pure form of methamphetamine, with majority of users, 57.3%, consuming methamphetamine in this form during 2016, a substantial rise from 26.7% in 2007 (Australian Institute of Health and Welfare, 2017). Furthermore, in 2016, 19.2% of drug related deaths were suspected to be due to methamphetamine intake, an increase from 5.3% in 2007 (Australian Institute of Health and Welfare, 2017). It has recently been identified as the main drug of concern in Australia, overtaking alcohol (Australian Institute of Health and Welfare, 2017).

Methamphetamine is readily abused due to its powerful psychostimulant and addictive properties. Methamphetamine is a member of the phenyl-ethyl-amine class of psychostimulants. Similar in structure to amphetamine (see Figure 1), an added N-methyl group provides added lipid solubility allowing for more rapid crossing of the blood–brain barrier, resulting in rapid onset of euphoria, and increased feelings of wakefulness, energy and sense of wellbeing. Methamphetamine is associated with adverse effects to every organ system (Marshall & Odell, 2012; Vearrier et al., 2012) and can be directly or indirectly fatal. Direct methamphetamine-related mortality may be due to neurological or cardiac complications, while indirect methamphetamine-related deaths are more traumatic in nature and are typically categorised as natural, accidental, suicidal, or homicidal (Vearrier et al., 2012).
Acutely, methamphetamine's main mechanism of action is to act as an agonist, increasing neuronal release of monoamines, particularly dopamine, and these increases in monoamine neurotransmission are responsible for the desired effects. While dopamine, a catecholamine, is the major neurotransmitter impacted by methamphetamine use, serotonergic, noradrenergic, and glutamatergic systems are affected as well. The adverse effects of such neurotransmitter dysregulation are predominantly because of catecholamine excess. Specifically, this involves cardiovascular activation via norepinephrine release from sympathetic nerve endings as well as psychoactive stimulation from large quantities of dopamine release into brain synapses, including the caudate, putamen, and ventral striatal regions. Chronically, methamphetamine use has been shown to cause persistent dopaminergic deficits due to formation of dopamine-associated reactive oxygen species.

Methamphetamine abuse is widely recognised as a serious public health and social problem (Australian Institute of Health and Welfare, 2017). Some of the significant costs include treatment of methamphetamine-associated adverse health effects, criminal activity associated with the acquisition of methamphetamine, related aggressive behaviour and stigmatisation, loss of human potential and disruption to family and community structures. The Matrix program has been used in the United States of America (USA) since 1986 to assist people with cocaine addiction (Rawson 1986). Initial results from the Matrix study showed that the Matrix clients used significantly less cocaine at follow-up (Rawson et al., 1986). Similar results were shown at replications of the study during 1991 and 1996 (Rawson et al.,
1991, 1995). In 2017, for the first time in Australia, a Matrix program for methamphetamine users was implemented through a South Australian (SA) based non-government organisation, PsychMed. This is a provider of community-based individual and group Cognitive Behaviour Therapy (CBT) for mental health and Alcohol and Other Drugs (AOD) treatment in South Australia. PsychMed provides a range of fee-free services, specifically assisting people with complex comorbidities. From 2005 to 2015, clinicians noted an escalating number of people with methamphetamine use comorbidities. In 2015 the Commonwealth Government announced increased funding to address the problem.

There is a growing recognition that traditional drug treatment approaches (inpatient detox, drug substitution, residential rehabilitation programs and outpatient counselling support) have limited effectiveness in engagement and achievement of short and long-term abstinence (Ciketic et al., 2012; McKetin et al., 2012). Traditional approaches have largely failed to address significant barriers to engagement and maintenance of abstinence identified by methamphetamine users including: low self-efficacy, cognitions, withdrawal side effects (individual factors) and isolation, family support and poor programs (systemic factors) (Alexander et al., 2017). In 2015, The National Ice Taskforce found that 99% of funding had been directed to these traditional modalities, with less than 1% directed to intensive structured community-based services (Manning et al., 2017). An earlier report in 2007 identified a similar distribution with respect to structured community based programs, and when seen together, showed a marked shift away from expenditure on drug substitution (33% cf 1%), to a marked increase in inpatient and residential treatments (27% vs 76%; Manning et al., 2017), notwithstanding the strong evidence base for structured intensive community based programs, such as Rawson’s Matrix program, which have been frequently dismissed as too costly and difficult to implement. It should be noted most drug substitution trials demonstrated little or no benefit (Rose & Grant, 2008), with one commonly prescribed Australian first line anti-depressant SSRI Sertraline showing no benefit for depression or cravings but was also associated with an increased likelihood of relapse (Showtaw, 2006).

It has become increasingly apparent that there is a need for more research directed at evaluating the effectiveness of methamphetamine treatment (McKetin et al., 2018), and trial and application of evidence-based programs such as the Matrix model (Ciketic et al., 2012). This paper reports our experience of a multi-site pilot replicating Rawson’s Matrix program in Adelaide, South Australia, and subsequent adaptation using Australian AOD population statistics, information and language and modernising the program to include modules relating
to the Internet, social media, current comorbidities including gambling and online gaming and use of a moderated confidential support application between groups, in addition to covering contemporary male gender concerns such as steroid misuse and an enhancement of the lived experience co-facilitator role.

The primary aim of this paper was to describe the ‘Australian adaptation’ 20-week Matrix program and how it differs to the 16-week program. ’ The secondary aim was to provide preliminary results regarding the effectiveness for the first Matrix program in Australia (both the 16-week and 20-week) on measures for methamphetamine use, cravings, dependence, and social functioning and psychological distress.

**Method**

*Design*

The Matrix program is an intensive community-based outpatient methamphetamine treatment program designed to encourage abstinence from methamphetamine and other drug or alcohol use. The control group consisted of people who had been assessed for the program but chose not to participate in Matrix but rather opted for individual CBT treatment with a psychologist at PsychMed or Treatment as Usual (TAU) and therefore either never attended Matrix groups or only attended one day (two group sessions) or less. The experimental group consisted of people who had attended at least two days (i.e., minimum of four group sessions) of the Matrix program in addition to individual sessions and mentor support similar to previous studies (Rawson et al., 1991, 1995).

The program and all measures were completed at four trial site locations across the Adelaide metropolitan area including southern, central and northern locations, with funding provided by the Commonwealth Government for a three-year multisite trial in Adelaide, widely reported as the ‘Ice Capital of Australia’ (Holdehead, 2017). The program was approved by the Adelaide Primary Health Network (APHN) and Department of Health and Ageing (DOHA), and research was approved and overseen by an interagency research and ethics committee, with representatives from PsychMed, and the Universities of South Australia and Adelaide. Prior to commencing the study, the procedures were explained in detail to participants prior to signing a written research consent and a program contract.

*Participants*
Adults, over the age of 18 years, were eligible to participate in Matrix groups if they were concerned about their Methamphetamine use and had been abstinent from Methamphetamines for two weeks. The client could be self-referred or referred from a third party to participate in the Matrix program. Some participants continued use during their first two to four weeks of the program, and if persisted were encouraged to return to or attend an inpatient detox, as were people who relapsed, prior to recommencing the program. Recruitment commenced in November 2016 for the original three site (central, south, and north) 16-week pilot, with the first group commencing in the southern site during January 2017, followed by the northern and city sites. The 20-week multi-site format commenced in early October 2017 simultaneously for seven groups at all four sites.

**Intervention**

Rawson et al. (1995) stated the goal of the Matrix model has been to provide a multi-facet programme which can assist drug users by helping them to achieve abstinence from drug use, remain in a treatment program for a longer period of time, understand the background to addiction and relapse, receive support from a trained therapist, educate family members, become familiar with self-help programs and maintain personal accountability and monitoring via urine testing. Consequently, for the first time in Australia, the Matrix program was implemented amongst Methamphetamine users in Adelaide, Australia. The intervention in Australia started as a 16-week program (summarised below) and then updated to a 20-week program upon review. Group sessions went for 60 to 90 minutes and participants attended two groups, three days per week.

After contacting PsychMed, the client attended an initial assessment to determine their suitability and eligibility for the program. The initial and post assessments included an ASSIST questionnaire (only at initial), a time line follow back for methamphetamine use over the past three months in days, Opiate Treatment Index value (OTI) for methamphetamine use, Buss-Perry Aggression Questionnaire, World Health Organisation Quality of Life (WHOQoL), Kessler-10 (K10), Depression, Anxiety, Stress Scale (DASS-21), Severity of Dependence Scale (SDS) and Visual Analogue Scale (VAS). Each client subsequently attended an induction where they provided informed consent, signed a program contract, discussed an outline of the group and the program rules, and was introduced to the facilitators and lived experience mentor. A treatment plan was also designed which may have included individual CBT treatment for comorbidities. While clients were encouraged to have their General
Practitioner (GP) monitor their medical management, the program also had a GP available to assess the need for further medical management. Randomly, once a week the client completed a urine test and brief one-week time-line-follow-back, Public Health Questionnaire (PHQ-9), and Work and Social Adjustment Scale (WSAS).

_Pilot study – 16-week program:_

Initially we started the 16-week program as per the Rawson model (see Table 1) at 3 sites southern, central and northern Adelaide. This model included a 16-week intensive period which included eight modules of early recovery skills based on Motivational Interviewing (MI) and CBT principles, these were covered twice a week for the initial four weeks; 32 relapse prevention modules, again twice per week for 16 weeks and utilising CBT and harm reduction elements; eight modules of family education once per week delivered flexibly when family or friends supporting recovery were able to attend; eight modules of gender group sessions; and 32 social support modules, once per week, led by the lived experience mentor and supervised by the facilitating psychologist, see Table 2. The program also utilised a minimum of three individual sessions and included elements of community engagement and contingency management (e.g., stickers, community rewards such as gym attendance, haircuts and makeover, movie passes and attendance at relaxation training, Narcotics Anonymous (NA) meetings or SMART recovery).

Table 1: An overview of the structure of the 16-week Matrix pilot program.

<table>
<thead>
<tr>
<th>Intensive Treatment</th>
<th>Intensive Treatment</th>
<th>Continuing Care</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weeks 1-4</strong></td>
<td><strong>Weeks 5-16</strong></td>
<td></td>
</tr>
<tr>
<td>Monday</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1hr: Early Recovery Skills</td>
<td>1hr: Woman’s group</td>
<td></td>
</tr>
<tr>
<td>1.5hr: Relapse Prevention</td>
<td>1.5hr: Relapse Prevention</td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td><em>Meditation based, NA, 12 step or smart recovery</em></td>
<td></td>
</tr>
<tr>
<td>Wednesday</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5hr: Family education</td>
<td>1.5hr: Family education</td>
<td>1hr: Social support</td>
</tr>
<tr>
<td>1hr: Social support</td>
<td>1hr: Social support</td>
<td></td>
</tr>
<tr>
<td>Thursday</td>
<td><em>Meditation based, NA, 12 step or smart recovery</em></td>
<td></td>
</tr>
<tr>
<td>Friday</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1hr: Early Recovery Skills</td>
<td>1hr: Woman’s group</td>
<td></td>
</tr>
<tr>
<td>1.5hr: Relapse Prevention</td>
<td>1.5hr: Relapse Prevention</td>
<td></td>
</tr>
<tr>
<td>Weekends</td>
<td><em>Meditation based, NA, 12 step or smart recovery</em></td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: NA, narcotics anonymous; hr, hour
Table 2: An overview of the different Matrix modules and the type of topics discussed.

<table>
<thead>
<tr>
<th>Matrix Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Recovery Skills:</td>
<td>During the ERS component the client is educated regarding the biology of addiction, conditioning and addiction, medical effects of stimulants on the heart, lungs, reproductive system, and brain; and addiction and the family (Rawson et al., 1995).</td>
</tr>
<tr>
<td>Relapse Prevention Group:</td>
<td>This group provides a setting in which information about relapse and relapse prevention can be shared and signs of impending relapse can be identified by staff and clients so that those heading toward relapse can be redirected, and those who are on a sound course of recovery can be reinforced. The group setting allows for mutual client assistance within the guiding constraints of a professional therapist and recovering addict co-leader (Rawson et al., 1995).</td>
</tr>
<tr>
<td>Family Education:</td>
<td>Family education modules discuss the effect of the addiction on families and how these relationships can be rebuilt.</td>
</tr>
<tr>
<td>Women’s group:</td>
<td>This group addresses a range of specific women’s issues relating to drug use focussing on identifying healthy relationships, biological changes and self-esteem.</td>
</tr>
<tr>
<td>Social support:</td>
<td>This group is designed to assist clients in establishing new nondrug-related friends and activities. Social support group is used to provide patients with ongoing support even after the initial 16 or 20-week program (Rawson 1995).</td>
</tr>
</tbody>
</table>

Summary of changes from the 16-week program to the 20-week program

The initial 16-week program initially received 720 referrals from a range of sources (e.g., GP’s, inpatient detox, justice system, private psychologists and psychiatrists, self-referred). Seventy-nine people were assessed, with 63 engaging. Due to the very limited availability of places in the program, only those with severe methamphetamine addictions, who were dedicated to abstinence and could be assessed prior to the group starting date, as per the information provided on the referrals, were assessed. After trialling the 16-week program a
number of updates were made to the content to increase the effectiveness. The changes were made following review of psychoeducational materials, which were modified based on clinician reports, lived experience mentors and client feedback, and utilising Australian based epidemiological, research findings and Australian language and terms. Much of the new module content related to modernisation of the Matrix program, which was initially developed in a pre-Internet environment in the 1980s. Feedback from clients suggested much of their drug use networks were intimately connected with the use of the Internet, smart phones and social media. In addition, Australia has the highest rate of problem gambling in the world, and our experience suggests there is a strong relationship between disordered gambling and psychostimulant use, which has also been included in the new module content, see Table 3.

ERS - Early recovery skills modules were increased from eight to 10 to include the topics: Internet and Social Media as a Trigger & Apps that can help, Chronic Pain and Opioid Misuse and Dependence.

RPG - Relapse prevention modules were increased from 32 to 40 including topics on suicidality and depression, trauma, grief and loss, Pokies (poker machines) and gambling, online gambling and sports betting, Internet, Facebook, Instagram, Twitter and other social media applications, relaxation training, mindfulness and meditation, sleep hygiene.

Family Education – Sessions were increased from eight to 10 to include discussion on local support and self-care for families and a mediated open family discussion.

Women’s group – Sessions were increased from 8 to 10 to include topics of sex work and eating disorders/body image.

Men’s group - A male gender group was created as it was found many of the women’s group discussion topics were equally helpful to male participants; however relevant modules were included on body-building/body image and steroid misuse, sex work and pornography, men’s health, mental health and self-care, mateship and support.

Social Support Group - The social support period of the program was extended from 35 weeks to 24 months. Social support modules were developed from discussion themes in the original MATRIX to include culturally appropriate Australian discussion themes, with the Lived Experience Mentors (LEMs) continuing to develop themes and handout materials particularly relevant to Australian culture, including discussion on family court, custody and shared
parenting, welfare and Centrelink, WorkCover and work insurance schemes, housing and supported accommodation and healthcare.

Furthermore, we began recruiting the LEMs from the Matrix program, specifically identifying those who had successfully maintained abstinence, this was different as initially they were recruited from NA. Additionally, a range of augmenting elements were incorporated including: secure apps to enable active group members to communicate and support each other and interact with LEMs and group facilitators moderating the content; arranging for the groups to participate collectively and optionally in Tai Chi classes; contingency management in the form of certificates and graduation bears and stickers.

The initial program included a panel session where participants could speak with a group of people who have been in extended recovery and achieve this through a range of methods. Subsequently, these panels were run twice in the 20-week program based on client feedback about their usefulness.

Table 3: An overview of the structure of the updated 20-week Matrix program

<table>
<thead>
<tr>
<th></th>
<th>Intensive Treatment</th>
<th>Intensive Treatment</th>
<th>Continuing Care</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weeks 1-5</td>
<td>Weeks 6-20</td>
<td>Weeks 21-124</td>
</tr>
<tr>
<td>Monday</td>
<td>1hr: Early Recovery Skills</td>
<td>1.5hr: Relapse Prevention</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.5hr: Relapse Prevention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td></td>
<td>12 step or smart recovery</td>
<td></td>
</tr>
<tr>
<td>Wednesday</td>
<td>1.5hr: Family education</td>
<td>1.5hr: Family education</td>
<td>1hr: Social support</td>
</tr>
<tr>
<td></td>
<td>1hr: Gender groups</td>
<td>1hr: Social support</td>
<td></td>
</tr>
<tr>
<td>Thursday</td>
<td></td>
<td>12 step or smart recovery</td>
<td></td>
</tr>
<tr>
<td>Friday</td>
<td>1hr: Early Recovery Skills</td>
<td>1.5hr: Relapse Prevention</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.5hr: Relapse Prevention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekends</td>
<td></td>
<td>12 step or smart recovery</td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: NA, narcotics anonymous; hr, hour

Measures

As previously used (Rawson et al., 2003) remission is defined as four-weeks abstinence and was measured continuously throughout the intensive Matrix period.

Initial and post treatment questionnaires:
**World Health Organization Alcohol, Smoking and Substance Involvement Screening Test (ASSIST):** The ASSIST (V3.0; Newcombe, Humeniuk & Ali, 2005) was designed to be used in primary health settings to determine substance use. It was sponsored by the World Health Organisation to address the need for reliable and valid screening for problematic or risky substance use. The ASSIST contained eight items and was administered through an interview and the client was screened for all levels of problem or risky substance use. A higher score indicated greater risk for that substance and scores can be grouped into low, moderate or high risk. The ASSIST has been shown to be a valid and reliable measure (Newcombe, Humeniuk & Ali, 2005; WHO Assist Working Group, 2002).

**Opiate Treatment Index (OTI) for Methamphetamines and other drugs:** The OTI (Darke et al., 1991) is a comprehensive evaluation tool for treatment and consists of six independent outcome domains. This study only looked at drug use, and social functioning. For both scales a higher score represented a greater degree of dysfunction. The OTI does not directly assess the opiate dependence of the individual but examines the recent behaviour of the individual over a range of outcome domains.

**Time Line Follow Back (TLFB):** At the initial and post treatment session, each client was asked to consider the previous three months. With the use of a calendar, the participant recalled whether they used methamphetamines on any of the days during this period. Furthermore, each week the clients were asked to consider the previous week, and record whether they used methamphetamines or not.

**Severity of Dependence Scale (SDS):** The SDS is a five-item measure of current dependence and has shown good psychometric properties for measuring current dependence on heroin, amphetamines and cocaine on a 4-point Likert scale (Gossop et al., 1995). The total SDS score measures behavioural elements of drug use relating to dependence, such as amount, frequency, duration of use, as well as time spent associating with other users. A higher score on the SDS indicated worse dependence on methamphetamines.

**Kessler-10 (K10):** The K10 (Kessler, Barker et al., 2003), is a self-administered questionnaire of non-specific psychological distress used to screen for anxiety-mood disorders within the previous 28 days. The ten items were measured on a five-point Likert scale (ranging from 1=none of the time to 5=all of the time). A higher value indicated that the person was exhibiting increased psychological stress. This measure has been validated and shown to be
reliable in a number of populations, across a number of ages and amongst people with a variety of health, including mental health, concerns.

**Aggression Questionnaire:** The self-administered aggression questionnaire was made up of 29-items which measure aggression via four subscales; physical aggression, verbal aggression, anger, and hostility (Buss & Perry, 1992). Each item was measured on a five-point Likert scale (1-extremely uncharacteristic of me to 5-extremely characteristic of me). It has become known as the gold standard for the measurement of aggression (Gerevich, Bacsai, Czobor, 2007).

**World Health Organisation Quality of Life (WHOQoL):** The WHOQoL is a self-administered questionnaire that measured how the person felt about their quality of life, health and other areas of life. The WHOQoL was made up of 26 items and measured on a five-point Likert scale ranging from 1- very poor/very dissatisfied/not at all or never to 5-always/very satisfied/very well/completely/extremely/very good/very satisfied or an extreme amount. It is a widely used questionnaire which has shown moderate validity and reliability (Skevington, Lofty, O’Connell, 2004).

**Depression, Anxiety and Stress Scale (DASS-21):** The DASS-21 is a short form of Lovibond and Lovibond's (1995) 42-item self-report measure of depression, anxiety, and stress. A higher score represented worse depression, anxiety or stress and measured on a four-point Likert scale (ranging from 0=never to 3=almost always). This measure has been validated and shown to be reliable in a number of populations, across a number of ages and amongst people with a variety of health, including mental health concerns.

**Cravings:** To measure the strength of the current cravings a ten-point Likert scale measure was used. The Likert scale ranged from zero (no cravings) to 10 (most craving ever experienced for methamphetamine).

**Patient Health Questionnaire (PHQ-9):** The PHQ-9 is designed to identify depression symptoms based on the DSM-IV, and is a self-administered, nine-item questionnaire. Each item was measured using a four-point Likert scale (ranging from 0-not at all to 3-nearly every day). A higher score on the PHQ-9 corresponds to increased depression severity. It has been previously shown to have good validity and reliability in both the general population and medical settings (Martin, Rief, Klaiber & Braehler, 2006).
**Work & Social Adjustment Scale (WSAS):** The WSAS consists of a five-item scale which measured how methamphetamine dependence has impacted the person’s ability to complete work, home management, social leisure, private leisure and relationships. Each item was rated on an eight-point Likert scale (ranging from 0 – not at all, to 8 - very severely).

**Urine tests:** Urine tests were collected randomly on a weekly basis. Full toxicology screens were used for all clients’ tests. Positive tests were used as points of discussion between therapist and client and may provide an indication that some aspect of the individual treatment plan is inadequate or incomplete. Urine tests were not used for punitive or legal monitoring purposes and results were de-identified for research purposes.

**Statistical analysis**

The current paper will report all findings as means (±SD) unless otherwise stated. A Wilcoxon signed rank test was used to determine differences across pre-and post-intervention, due to the non-normal distribution of the samples.

For future discussion, non–normally distributed variables will be logarithmically transformed before analysis. Where normality is not achieved, non-parametric methods for analysis will be used. Baseline characteristics will be assessed by independent t-tests and chi-squared tests for continuous and categorical variables respectively. Changes over time between the intervention group and controls will be assessed using a linear mixed effects model with treatment as a between-subject factor, and time as the repeated measurement. Where appropriate, any difference in baseline characteristics will be controlled for in the analysis. Where there is a significant main effect, post-hoc comparisons will be performed with Bonferroni adjustments for multiple comparisons to determine differences between group means. Associations of change between variables will be analysed using Pearson correlations. Statistical significance will be set at $p < 0.05$. Statistical analyses will be performed using SPSS version 24.0 (SPSS In., Chicago, IL).

**Results**

Due to the Matrix program being in such early stages we can only provide a snapshot of the results in this methodology paper. The current results have included participants from both the 16-week and 20-week program. So far, we have assessed and registered 249 people to start the Matrix program, of whom 63 participants only completed an assessment or only attended one session. Consequently, leaving a sample of 184 participants of whom 64
participated in the 16-week program and 120 participated or are participating in the 20-week program. The average age of the group was 36.13 ± 8.21 years (ranging between 18.83 and 56.31 years). Further descriptives of the sample can be found in Table 4.

Table 4: A summary of the number of days of methamphetamine use over the last three months, psychological distress, severity of methamphetamine dependence, methamphetamine cravings experienced, methamphetamine (OTI score), and social functioning (OTI score) both pre and post the Matrix intensive period.

<table>
<thead>
<tr>
<th></th>
<th>Initial Assessment</th>
<th>Post-intensive (16/20-week) assessment</th>
<th>Wilcoxon</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$n$</td>
<td>Mean (±SD)</td>
<td>Range</td>
</tr>
<tr>
<td><strong>Timeline follow back</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(days of meth use)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological distress</td>
<td>156</td>
<td>31.62 (28.35)</td>
<td>0-108</td>
</tr>
<tr>
<td>Severity of Dependence</td>
<td>151</td>
<td>29.48 (8.94)</td>
<td>5-58</td>
</tr>
<tr>
<td>Cravings</td>
<td>152</td>
<td>7.88 (3.53)</td>
<td>0-15</td>
</tr>
<tr>
<td>Methamphetamine Use</td>
<td>145</td>
<td>6.14 (2.60)</td>
<td>0-10</td>
</tr>
<tr>
<td>Social Functioning</td>
<td>133</td>
<td>17.96 (7.31)</td>
<td>2-48</td>
</tr>
</tbody>
</table>

*p<.01

Abbreviations: n, number of participants; SD, standard deviation;

Overall, all measures significantly reduced (p<0.01) between pre- and post-measures. Psychological distress reduced from initially moderate to severe ratings to mild and dependence reduced to no longer dependent on methamphetamines. Furthermore, of the 184 participants 117 completed at least one urine sample and of that sample on average 1.54 ±2.25 were positive for methamphetamine use (range between 0-11). Of the 184 participants who attended more than two days, a total of 101 participants (54.9%) went into remission (i.e. abstinent for four weeks during the program), this was based on clinician’s report (96 participants), timeline follow back (61 participants) and urine results (60 participants). Furthermore, of the 130 participants for whom data were gathered 62 (47.7%) used methamphetamines zero times over the intensive program (112-140 days), 37 (28.5%) used only 1-5 times, 16 (12.3%) used 6-10 times, 11 (8.5%) used 11-15 times and four (3.0%) participants used over 16 times. Finally, of 141 participants, only 15 (10.6%) reported returning to detox during the program.

**Discussion**
Prevalence of Methamphetamine use and dependence is rising in Australia. This protocol paper described the methodology used in the Matrix program and follows the effects of the program on a range of variables such as methamphetamine use, psychological distress, severity of dependence, cravings and social functioning in adults. Our preliminary results showed significant reductions in methamphetamine use, cravings, dependence and psychological distress before and after the Matrix intensive treatment, and over 75% of the participants showed five or fewer drug use days during the program. These results replicate and are consistent with previous multisite trials of Matrix by Rawson et al. (1995, 2003). Evidence suggests intensive structured multi-modal outpatient interventions following detox with a long term follow up improve mental and physical health outcomes and reduce methamphetamine use. The current Matrix 20-week program has incorporated this evidence and provides a community-based methamphetamine treatment that assists participants for two years to deal with triggers in their environment, to establish new bonds in the community, and a social support network of people in active recovery, and rebuild relationships with families (Alexander et al., 2017).

In Australia, the Matrix program is the first intensive multimodal program that combines elements that have established efficacy such as MI, CBT, harm reduction, relapse prevention, psychosocial education and contingency management (Ciketic et al., 2012). In addition, combining synergistic elements that have been shown to augment the effectiveness of primary interventions such as family education and support, use of lived experience mentoring, community engagement and social network of people in active recovery. The Matrix program adds rapid follow on from detox, taking advantage of the short-term gains from safe medical detox programs. Safe-medical detox is critical for methamphetamine users, however, failure to follow up with effective intensive support based in real-world conditions results in modest outcomes (McKetin et al., 2012). Consequently, the current methodological paper will be of interest to clinicians, researchers and doctors working in the areas of methamphetamine addiction, and policy makers, regulatory bodies and service providers to optimise long term outcomes.

A possible limitation of the program is that due to the intensity and duration, only motivated people will continue throughout the program. Therefore, the sample is not random, which may make it difficult to generalise to all methamphetamine users. However, given the lack of treatment programs and the magnitude of need in Adelaide (Holdehead, 2017) the initial results have been promising amongst an intake that included people with strong dependencies.
Finally, while subjective measures were used when asking about methamphetamine use, it is important to note objective urine tests were also incorporated and subjective measures have been shown to be reliable when confidentiality is assured (Drake 1998).

The future directions of the program include expanding the program. Since the initial 16-week pilot program the program has been expanded to four sites and seven groups. The South Australian state government has pledged to run one rural pilot in the Riverland and is in the process of discussing three other regional trial sites in South Australia. A program utilising the 20-week adaptation has commenced in Perth and a trial utilising aspects of the 20-week program is planned for the justice system in Brisbane. The collection of lead psychologists who have completed training and trainer training in the United State Matrix Program have formed a national group called the National Matrix Network and has offered assistance with free access to the Australian adaption of the program and training to ensure the integrity and fidelity of the program. In the last six months we have had approaches and discussions with five interstate regional alcohol and drug programs who are hoping to roll out the program in the central coast, Nepean Blue Mountains, western suburbs of Sydney, south east Melbourne and north Queensland.
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References:


Addiction as the Shadow Cast by Trauma

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Addiction as the Shadow Cast by Trauma

ABSTRACT: Free will guided by conscience is a final crowning achievement of psychological development, but easily toppled. The fragility of our free will is most brutally exposed in states of addiction. And we are never more fragile than when exposed to early trauma. Trauma, from the Latin ‘to pierce or wound’, wounds the child’s tentative acquisition of free will and of a loving conscience. Addiction, from the Latin ‘enslaved’, connotes their later obliteration.

This paper considers psychological and biological pathways from developmental trauma to later addiction. Psychological resemblances between trauma and addiction allow for an appreciation of addiction as a trauma state in itself. The patient may benefit from this perspective in the treating clinician. The notion of re-enactment links past trauma with present addiction. Such re-enactments are illustrated with several case histories. These re-enactments become available for healing – or further exacerbation - in their transference expression. Clinical opportunities for working through often parallel the inevitable pitfalls of re-traumatisation.

The Adverse Childhood Experiences (Edwards 2003) study is reviewed. This cohort identified correlations between early trauma and later addiction. From the ‘what’ of an epidemiological perspective, this paper then considers advances in neurobiology as a ‘how’, suggesting various mechanisms by which the link between past trauma and current addiction may be mediated.

Keywords: Addiction; Trauma; Re-enactment; Conscience; Free Will

Introduction

Free will guided by conscience is a crowning achievement of psychological development, but easily toppled. The fragility of our free will is most brutally exposed in states of addiction, and we are never more fragile than when exposed to early trauma. Trauma, from the Latin ‘to pierce or wound’, wounds the child’s tentative acquisition of free will, and of a loving conscience. Addiction, from the Latin ‘enslaved’, connotes their later obliteration.

This paper considers how early trauma leads to later addiction, and argues that the patient can benefit from an awareness of this perspective in the treating clinician. Its learning objectives comprise:

- recognition of the psychological resemblances between childhood trauma and later addictions, allowing an appreciation of addiction as a trauma state in itself;
- review of epidemiological links between trauma and addiction, and
- consideration of neurobiological pathways by which these links may be mediated.
Addiction has its origins in our psychological templates of dependency and attachment, habit, compulsion and desire, as well as emotional regulation, or self-soothing, all of which are affected by developmental disruptions, and all of which have biological correlates in brain circuitry. It follows that various neurobiological pathways may contribute to the expression of early trauma experiences as later addictions. These include

- the hypothalamic-pituitary-adrenal axis, from which stress reactivity and stress responses are derived.

- the role of epigenetics and neuroplasticity, including the ‘delta fos B’ transcription factor cited (Doidge 2007) as contributing to the hallmark of addictive behaviour known as restitution, by which the addicted person relapses to an earlier (high) level of drug consumption.

- the role of memory circuits in establishing long-term potentiation. (Nestler 2013)

- the role of the basal ganglia in generating habit and compulsion, including the nucleus accumbens. Changes in the nucleus accumbens under conditions of repetition – or entrenched learning - are thought to determine how subjective experiences of pleasure give way to compulsion, which is another hallmark of addiction. (Berridge 2016)

- the role of attachment systems, including motivational systems. (Panksepp 2012) Attachment theory also provides a perspective on the meaning of dependency as a synonym for addiction.

- the ‘location’ of conscience, or at least the functions of judgment and self-restraint or impulse control, in the dorso-lateral pre-frontal cortex (under conscious and language-based mediation) and the orbito-frontal cortex (proposed as underlying ‘less conscious’ aspects of so-called super-ego function). (Sapolsky 2017)

**Clinical Perspectives**

From the above theoretical introduction, various clinical perspectives and practical applications are now considered. The relapsing addict falls into a void between “can’t stop” and “won’t stop” – for many, this is an echo of the helplessness of early trauma. The loss of control connoted by addiction implies a loss of awareness known as dissociation, which itself can have partly voluntary and partly involuntary aspects…And what does dissociation imply? Trauma.

Early trauma may cause an enduring vulnerability to addiction via an enduring vulnerability to dissociation. Various subjective descriptions of the relapsing addict encountered in clinical practice indicate states of relative dissociation, such as “…what was I thinking?” or “I must have been out of my mind…” This paper proposes that such expressions resemble “trauma-related deficiencies in registering internal states”. (Kolk 2014)
Other typical first-person attributions for relapse refer to a need to soothe dysphoric states, such as “I just felt so terrible, I needed something to take the pain away…” These accounts are consistent with the self-medication hypothesis of Khantzian. (Khantzian 2003)

Dissociation itself is not a binary concept. Intense desire itself can entail some loss of awareness, or clouding of perception, as reflected in the Yiddish proverb: “When the penis is erect, the brain is buried in the ground…”

**Links between Trauma and Addiction**

*Object Relations Re-enactments*

If I could sum up this talk in one word it would be with the object relations notion of ‘re-enactment’, such that, for any given patient, a present addiction may represent a re-enactment of past trauma. According to this psychoanalytic approach, such re-enactments become available for healing – or further exacerbation - in their transference expression. ‘Transference’ refers to the patient’s early emotional patterns re-evoked in treatment settings, along old fault lines such as trust, safety, anger, vulnerability. Although the transference is a pervasive phenomenon, its most effective clinical application for patients with addictions arises only once the patient is well and truly in recovery, and (possibly) ready for their ‘thirteenth step’ - into individual psychodynamic therapy.

*Developmental Trauma*

With poetic licence, it could be asserted that addiction is the shadow cast by trauma, but the equivalence is not absolute. ‘Substance abuse among those with PTSD is as high as 60 to 80 percent, and the rate of PTSD among substance abusers is 40 to 60 percent.’ (Lewis 2015) However, when the trauma group is expanded to include children with developmental trauma disorder, the trauma/addiction link is strengthened, as shown by the Adverse Childhood Experiences study. (Edwards 2003)

In a sample of 17,000 middle class Americans, the ACE study showed ‘that early adverse experience predicts a 500 per cent increase in the incidence of adult alcoholism and a 4,600 per cent increase in the incidence of IV drug use.’ (Lewis 2015) The types of adverse experiences included physical, emotional, and sexual abuse as well as alcoholism in immediate family and chronic parental depression.

Another study often cited to demonstrate social and developmental influences on addiction is the Rat Park study. (Alexander 1981) It found significant differences in rates of morphine consumption among two groups of rats: those alone in cramped cages, and those in the salubrious and sociable world of ‘rat park’.
Development of Conscience

The notion of developmental trauma implies damage that becomes woven into the fabric of a child’s emotional development. The damage typically takes the form of a child’s attitude that: ‘this [trauma/abuse] is happening to me because I am bad…I deserve it…It is my fault…’ These attitudes form the core of the traumatised child’s sense of self. This returns us to the notion of conscience mentioned previously as a guide – or limit - to free will, such that in healthy development free will is never absolute. But in a child whose development is affected by trauma, the conscience may be damaged. It is as though the traumatised child would rather feel that it is their fault – perhaps thereby retaining some primitive notion of agency – rather than face the terrifying truth of helplessness. For the traumatised child, ‘I am bad’ trumps ‘I am helpless’: the child owns the blame and fault. This can become a greed for self-blame, manifest as later martyrdom, or perfectionism. But all these factors can vary, and so many variables are at play. Of particular clinical significance is the interpersonal context of the child’s early life, as will be shown in three case histories.

Cruelty inflicted upon the child in the form of interpersonal abuse and trauma so often becomes cruelty self-inflicted: cruelty in the form of the child’s self-loathing, self-hate, self-disgust, perfectionism. In later life, the child discovers ways to escape such attacking attitudes to him or herself. Addiction is one such means of escape or avoidance. (Khantzian 2003)

This brings us to a crucial paradox: to the observer, the addict is self-indulgent, or lacking will-power, or recalcitrant, ie lacking a conscience. But the addict him or herself typically suffers from an exaggerated and perverted conscience, in the form of the guilt, shame, and self-blame instilled by early abuse and trauma, later exacerbated by the relentless compulsions of addiction.

The addiction becomes a more and more frantic - albeit self-defeating and misguided - attempt to ‘get out from under’ the cruelest of consciences. Addiction amplifies the damage inflicted upon the conscience by early trauma.

However, in addiction, a new factor comes into play, for addictions hijack the effort-reward pathway, such that the addict habitually, and then compulsively, obtains reward without effort. And one crucial aspect of the conscience is the lesson that reward takes effort. Joseph Le Doux termed this is the high way, as opposed to addiction’s low way. (Le Doux 1998)

Overlapping Symptoms between Developmental Trauma and Later Addictions

According to Flores, ‘It is difficult to accurately diagnose both addictive and trauma-related disorders because there is so much overlap in their symptoms.’ (Flores 2012)

The symptoms shared by early trauma and later addictions may be organised into three parts: aspects of desire and compulsion, aspects of conscience, and aspects of dissociation.
The following summary is intended as a guide to clinical understanding, rather than an exhaustive list. Its various descriptions also allow for the ambiguities between victim and perpetrator so often encountered in clinical work - ambiguities originating in the psychological complexities of interpersonal trauma.

Aspects of desire and compulsion common to both early trauma and later addiction comprise:

- confusion between pain and pleasure,
- the role of cruelty and hostility, consistent with Stoller’s approach to ‘perversion’ (Stoller 1975)
- the registering of excitement and anxiety along a tension release arc
- the loss of fun, spontaneity, and play, such that anhedonic craving takes over, referred to as the separation of liking from wanting (Berridge 2016)
- the experience of oneself as a thing
- secrecy and shame
- addiction as an aberrant or ‘hijacked’ drive (Solms advocates a return to what he calls the “unfashionable” psychoanalytic concept of drives, to promote understanding of the “biological forces” underlying lust and aggression, as well as of our various states of addiction) (Solms 2002)

Aspects of conscience which can be considered along the same lines comprise:

- immersion in a one person world, which implies subjective states dominated by the experiences of drive, heedless of interpersonal effects.
- threat to the functioning of conscience, which entails a threat to the integrity of self, leading to states of dis-integration, and de-structure/destruction
- the predominance of blame, fault, and guilt as markers for the Kleinian ‘paranoid-schizoid’ position, rather than the capacity for understanding and concern implied in the ‘depressive’ position. (Klein 1975)

Finally, aspects of dissociation are also present in both early trauma and later addictions, including:

- loss of agency, and helplessness
- confusion
- memory disturbance
- states of being in auto-pilot, or trance
- altered experiences of time, including a sense of being stuck, such that time no longer flows or passes

Summary

According to Van Der Kolk, developmental trauma disorder of childhood confers a consistent profile of pervasive dysregulation, problems with attention and concentration, and
difficulties getting along with themselves and others. (Kolk 2014) The person with an addiction also fits this profile. Van der Kolk also laments what he calls the ‘smorgasbord of diagnoses’ of DSM5, which refused to include ‘developmental trauma disorder’ in its nosology. (Kolk 2014)

Brain circuits involved in addiction comprise: dopamine circuits of incentive-motivation, opioid circuits of attachment-reward, and regulatory/impulse control centres in the dorso-lateral prefrontal cortex and orbitofrontal cortex, and the HPA stress axis. Each of these circuits is crucially affected by the early emotional environment. ‘By far the dominant aspect of this environment is the role of the nurturing adults in the child’s life, especially in the early years.’ (Mate 2012)

The question of ‘free will’ implies another question: whether there is an addictive personality, a phenotype supposedly prone to the ‘enslaving’ connotation of addiction. A putatively strong genetic basis for addictions has been proposed as an argument that the addict is more born than made. However, Gabor Mate’s critique of adoption studies strongly refutes this notion. (Mate 2012) The implied primacy of nurture over nature provides further indirect support for the main premise of this paper: that early trauma is a significant contribution to later addictions.

Three Case Histories

Three cases are now presented to illustrate these clinical encounters of the past in the present, as the basis of a trauma-informed psychological approach to patients with addictions. Most crucial in each case is the interpersonal context of the early traumatising experiences. Clinical details have been altered to ensure anonymity.

Case I: Rub one (self) out

Jafari was in therapy twice a week for two years, from the age of 32. He had endured the trauma of an African civil war from five to eight years of age. His father had departed when Jafari was five, after which the boy lived with his mother and sister at his grandmother’s home. But with all the bombings and tragedy of war around him, Jafari felt most upset about grandma’s cruelty, as she refused to allow him to play with toys at her home, favoured his older sister, and frequently rebuked him. He also recalled being bullied at school as the only boy from his ethnic group left in town. Before the war, children from multiple religions and ethnicities would play together. And before the war, Jafari had memories of closeness with his father – which he mentioned to me in the final session before I went on a break, hinting at a transference of that closeness onto me - and also of his own vigour, for example chasing girls around the playground.

But as an adult, Jafari was stricken with shyness, uncertainties about his sexuality, and intense fears of vague somatic symptoms. One of the most noticeable things about Jafari was the twitchiness of his face as he talked, like cracks appearing in a wall about to crumble…
He had only recently begun to describe those war years in therapy sessions. Jafari recounted an elderly neighbour who was killed by a grenade in front of her home. She had ventured outside to corral her herd of goats. Jafari recalled her blood on the sandy dirt. He also recalled the eerie silences between the grenades, waiting for the next explosion.

In the same session that he described the old lady’s death, Jafari told me that he had gone out the other night. He knew there would be girls around, so in his words he had “rubbed one out” while watching porn. This phrase meant what I had thought it meant – he masturbated.

His porn watching was compulsive, to the point of addiction, but I had never realised this added aspect to his behaviour: that before he is likely to encounter young women, he always masturbates, “rubbs one out”. Jafari explained that this was so that he would not risk being a target, not just of the females themselves, but of other young men whom he feared might attack him if he is with a woman that they desire.

Various aspects of his history can be brought to bear at this point:
- the intense trauma-based anxiety pervading his past and present
- a compulsive response to the anxiety in the form of the porn addiction, and masturbation
- the role of the addiction to both soothe him and render him impotent
- the restriction of his real lived experiences of intimacy – he has never had a girlfriend, and barely any sexual experiences
- his frequently expressed anxiety about women, which at times gave way to intense hostility, and paranoia

A transference expression of the sexual behaviour arose as follows. Before most sessions, Jafari would feel that he had lots on his mind to talk about, but it would ‘just disappear’ as he entered the therapy room. I interpreted this as another version of “rubbing one out” but in this case, he “rubbs himself out”. He really enjoyed this interpretation.

Jafari’s forgetting may represent a version of dissociation, hinting at a re-traumatising expression in the transference, perhaps related to fear of my ‘potency’, and his habitual seeking of a ‘less than’ position in life. Interestingly, he was frequently resentful of being over-qualified for his job.

Case II: the conflation of pleasure and pain

The next case illustrates the merging of pleasure and pain as a possible reflection of the conflicts aroused by childhood sexual abuse. James was also in his thirties, recently brought back to Melbourne as an ‘intervention’ by family members. James had been working in Berlin for many years, but had fallen into ketamine addiction. As part of his private psychiatric treatment overseas, he had been prescribed clonazepam, plus dexamphetamine, plus escitalopram.
In his first session with me, James said that he just needed help for his “depression”, with renewals of his scripts. When offered the opportunity to give his story, James recounted what he had never spoken about to anyone: that he had been molested by a school teacher, over several months, when aged 11. This confession gave way to further understanding over ensuing sessions. James’ father had frequently been violent to him, including beatings and pushing him down the stairs as a little boy. His mother had been compulsively gambling for many years, and now bankruptcy loomed due to her debts.

I wondered if the father’s violence had primed James to seek alternative closeness with a male role model, rendering him vulnerable to the paedophile teacher’s seduction. At the same time, his mother had been out of reach with addictions of her own.

But James’ greatest pain emerged shortly before he was due to return overseas. I had wondered about his relationship with his only sibling, a sister two years younger. James confessed that he used to encourage her to fondle his genitals, when they were together in the family spa bath.

No-one knew about their behaviour, but James said that it was a family joke that he and his sister had a kind of ‘faux marriage’; James felt terrible guilt about his behaviour, which began soon after he had been molested.

James had only attended for several sessions before departing. He had a very passive demeanour. With the door to my consulting room open from the waiting room, James would sit waiting to be beckoned in, loath to presume he could enter of his own initiative. He explained this as related to his Buddhist belief that he should not affect anyone else’s life in any intrusive way.

But all around him in his life overseas, he described intrusive, rude, aggressive figures: a bullying business partner, a ‘fiery’ Italian former fiancé with whom he could not perform sexually, pushy customers. I wondered whether his notion and use of ‘Buddhism’ appealed to him as a vehicle for disengagement, along with the ketamine, and the iatrogenic disengagement of psychotropic medications.

At our very last session, before returning overseas, James told me that he had a shameful sexual compulsion. He would pour boiling water on his skin while masturbating to intensify his pleasure. James described a quaint domestic ritual of laying down towels upon the bed, while the kettle boiled, in preparation for masturbation…the curtains always drawn.

Case III: where does treatment end and enabling begin?

From men in their thirties, to a woman in her forties, Jenny saw me for just one session. The intense and searching gaze which she fixed upon me as she sat implied a question which was borne out by her subsequent history: “Is this safe?”
Her emotional struggles – encoded within a contemporary lexicon of “anxiety and depression” - can really only be understood through a perspective of trauma. As is so often the case with traumatised patients, however, her most salient presenting problem is addictions; in her case, diazepam, alcohol, and narcotics as (former) OTC preparations.

Jenny’s trauma history is in two parts: a violent father followed by a violent husband. And the mother’s original denial of the father’s abuse is echoed in the denial by a previous psychiatrist who according to Jenny accused her of “catastrophizing” when she expressed her distress. This re-enactment of denial was further reinforced in the prescribing of the universal panacea, antidepressants, which caused weight gain, and anorgasmia, as well as removing her further from the possibility of working through the original problem of trauma.

Jenny was also made aware of the former psychiatrist’s comfortable domestic existence – as he told her how his wife would have dinner and slippers ready for him each evening, which was of course not likely to encourage Jenny in her confessions of real domestic violence in her marriage at the time.

Now why would Jenny tell me in our one session of this previous clinician’s self-disclosure? These innocent sounding platitudes, which may be intended to comfort a patient, can be a traumatising event in clinical practice. Such self-disclosure may disrupt the very boundaries which the patient requires to establish safety and trust. In effect, the psychiatrist was implying that he would not be able to face her emotions. The psychiatrist’s self-disclosure may limit the depth of clinical work, neglect the focus on the patient, impair the sort of framework crucial for any real progress to be made, and re-enact an invalidating attitude.

As further evidence for the patient’s traumatised state is the fact that she did not have the gumption to walk away, but kept returning for seven years of this ‘treatment’. All the while, by her account, her drug addictions continued unabated. It appeared that no attempt at addressing this with real behavioural change was made. She had had no recommendation for detoxification, no twelve steps, and no way to face the reality of her emotional states being tied to drug use, drug withdrawal, drug-related damage.

Multiple antidepressants, mood stabilisers, and sedatives had been prescribed with the implication that she suffered from some psychiatric condition separable from her addictions; and the putative relief of this psychiatric condition – ‘depression and anxiety’ - could reliably allow her addictions to dissolve. However, this project carried out over several years entailed both patient and psychiatrist drifting further and further from anything worthwhile, such as addressing the real defining feature of her clinical presentation: addiction.

But perhaps this perspective is too harsh. The dilemma is implied in Jenny’s own addictions, as her self-medication indicates that she did not herself want to face the pain of her past. But how can this dilemma be properly addressed when her psychiatrist does not want to face it, either?
In any event, it was not difficult to identify this dilemma in my first comment to her: that she was experiencing a conflict between “holding it together emotionally” so as to efficiently and accurately recount facts, versus expressing her emotions. No sooner was this interpretation uttered, than her eyes filled with tears, although she did not allow herself to weep openly. And why would she, when for years as a child her mother had denied her emotional reality, and for years as a patient her psychiatrist had accused her of “catastrophizing”, perhaps while wondering what yummy dinner his wife might have cooked up for him? But the game (of emotional denial) was up, as she declared: “I cannot keep going on like this: all these medications…”

With the above common picture of addictions in the context of complex developmental trauma, this paper argues that the crucial clinical priority is to first help the patient gain abstinence from her addictions.

References


Importance of clinical supervision in prevention of vicarious trauma for staff who case manage drug and alcohol clients.

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The Accessible Summary

What is known on the subject?

- Drug Health is part of a multidisciplinary team encompassing mental health in its clinical client care where dual diagnosis is a prominent factor in drug and alcohol clients.
- Vicarious trauma alters clinicians self-identify, worldview, psychological, spiritual, ego, intimacy and trust prerequisites.

What this paper adds to existing knowledge?

- Despite awareness of prevalence of vicarious trauma in at-risk clinicians, there is an apparent gap regarding information and support around effective strategies to reduce vicarious trauma.
- Practitioners’ perspectives of the role of clinical supervision in reducing vicarious trauma for nurses working with clients with complex and chronic substance use disorders.

What are the implications for practice?

- Organisational and managerial support is essential in promoting clinical supervision for staff case managing drug and alcohol clients.
- Ensure supervisors should be trained to facilitate specialist supervision necessary for this complex area of nursing and clinical supervision is made available to staff on a regular basis.
Keywords: clients, clinician, clinical supervision, drug and alcohol, nurse, vicarious trauma,

Aim
The aim of this practitioner narrative is to highlight that vicarious trauma in nurses caring for drug and alcohol clients can be reduced, through accessing and attending clinical supervision (CS).

Introduction
In this descriptive account, narrates how clinical supervision has benefitted my clinical practice within Drug Health Services. It demonstrates my understanding, as well as pinpoints academic support from relevant literature, regarding the importance of clinical supervision, in reducing vicarious trauma for nurses who case manage drug and alcohol clients. My experience as a case manager and a clinical supervisor provides firsthand insights and knowledge on the impact of supportive clinical supervision for nurses working with trauma clients.

Vicarious trauma is an inevitable by-product of nursing clients with trauma histories; whereby the nurses’ view of self, others and the world is slowly transformed through ongoing empathic engagement with client’s traumatic material (Rasmussen, 2005; Sinclair & Hamill, 2007). The resulting
consequences are burnout, emotional exhaustion, role conflict, de-
personalisation, diminished performances, increased staff turnover and compromised clinical output (Devilly, Wright, & Varker, 2009; Joubert, Hocking, & Hampson, 2013; Lombardo & Eyre, 2011). Moreover, unattended vicarious trauma can lead to long-term illness like anxiety and depression (Joubert et al. (2013), Lombardo and Eyre (2011).

Clinical supervision (CS) plays a protective role in staff well-being and burnout prevention; helping staff feel more empowered and autonomous at work, view fairness within their work environment and improve staff satisfaction with work. CS has the potential to offer valued support to clinicians and address work-related concerns underpinning emotional exhaustion (Roche, Todd, & O'Connor, 2007; Schmidt, 2012; Sinclair & Hamill, 2007).

The NSW Health Clinical Supervision Framework aims to support clinical supervision in practice; towards maintaining accumulative quality and safe client care. The principles and outcomes of the framework offer guidance to health care services and inform development of approaches for successful support for health care services and health professionals. This framework underlines the importance of clinical supervision in facilitating clinical safety and well-being as well as the expectation of clinician participation in the program (West, 2012).
However, I found that clinical supervision is not considered an important feature within nursing. The Public Health System Nurses’ and Midwives (State) Award 2017 does not have any clauses around clinical supervision for nurses, as opposed to the NSW Health Service Health Professionals (State) Award 2017 (Part A 2.10) clearly mentioning professional supervision is issued to subordinate health professionals to assist in clinical conduct, guidelines and approaches to professional work. I believe the set culture of not having incorporated clinical supervision as a stipulation into nursing contributes to this current gap. My view is supported by Roche et al. (2007), who lists ten barriers to clinical supervision starting with the lack of understanding regarding the value of clinical supervision and the reluctance to develop a program.

**Reasons to advocate clinical supervision for Drug Health staff**

Clinical supervision assists nurses;

1) allowing them to discuss sensitive information that they otherwise cannot talk about in clinical reviews or team debriefing sessions (Sinclair & Hamill, 2007)

2) helping them understand constructive empathic engagement as opposed to ‘rescue nursing’ or inappropriate self-disclosure (Fulton et al., 2016)

3) assisting in making sense of variations or challenges that oppress their personal perceptions, values and beliefs (Lombardo & Eyre, 2011)

4) aiding to objectively assess an issue and consider alternative interventions (West, 2012)
5) facilitating realisation and recognition of any changes in their clinical judgment that may contribute to harmful or maladaptive behaviors such as loss of sensitivity or overworking (Sinclair & Hamill, 2007)

6) understanding any countertransference from personal traumas that may impact clinical decision-making (Rasmussen, 2005)

7) accepting own susceptibilities that can predispose one to vicarious trauma (Rasmussen, 2005; Sinclair & Hamill, 2007).

The clinical supervision intents outlined above, have been instrumental towards my understanding of drug and alcohol nursing. These reasons are founded on my personal experiences with clinical supervision engagement and from the feedback I have received from the clinical supervision group I supervise. These objectives are furthermore supported by literature; citing some of the measures by which clinical supervisions can help towards staff development and assist in continuous improvement of drug and alcohol services provided to clients. I maintain clinical supervision will provide an overall improvement in the efficacy of services provided for clients. Schmidt (2012)
Discussion

The prevalence of vicarious trauma in care giving professions is becoming more prominent as research delves into issues affecting organisational productivity. Burnout, compassion fatigue, stress fatigue, secondary traumatic stress and occupational stress are listed as contributors to caregivers professional demise (Devilly et al., 2009; Ewer et al., 2015; Sinclair & Hamill, 2007).

In Healthcare, nurses seem to be at disadvantage due to the cultural view regarding clinical supervision, balancing nurses’ own values and beliefs, organisation’s goals and client’s personal goals and motivations. In drug and alcohol nursing, these factors can be completely out of alignment; the nurse may want the client to implement harm-minimisation regarding clients’ intravenous use, the organisation vision is to offer rehabilitation from drug use, while the client wants to happily continue their regular intravenous use and share injecting equipment.

With prolong repetition of inconsistencies in care planning and non-compliance from client, clinical practice can become tedious, drawn-out and unsatisfactory, if the clinicians’ outlook is influenced by the monotony. Clinical supervision has helped me in recognising this pattern and strategise by looking for small victories, like client attending their current case review
for ten more minutes than the last review or improvements in their daily attendance for opioid treatment.

I had attended a two-day ‘Introduction to Drug and Alcohol’ workshop prior to commencing my employment with Drug Health, in 2007. Although I had three years of Mental Health nursing experience, plus accreditation through a transition to Mental Health program criterion, I found the move to Drug Health quite different with its outpatient setting, harm minimisation focus and voluntary status for all clients. Looking back, engaging in clinical supervision would have been really helpful with the transitioning period of understanding a specialist area of nursing.

I engaged in clinical supervision in 2011 and personally found it most helpful for reflective practise. Since attending clinical supervision, I have seen myself develop constructive reflective practice, perceptive insight and therapeutic professional boundaries. Clinical supervision has helped me deal with the emotional impact of trauma work, manage caseloads and challenges within the multidisciplinary teams I work with.

The clinical supervision group I attend consists of peers from different disciplines, which is very enlightening due to the different perspectives available on any clinical or personal versus professional matters discussed. I
noticeably recall how a physiotherapist helped me understand that particular concerns I may have for a client does not necessarily mean everyone on my team can identify it as well. I needed to think about how I could get my team to ‘see my’ client concern and collaboratively acknowledge it as a ‘team’ concern for the client. Each individual on my team has a different frame of reference via which they comprehend and perceive situations. Therefore, what I have outlined and the thoughts in my mind backing my client concern may not articulate to their individual frames of reference. I realised that how I got my communication across effectively, depended on my ability to transfer my thoughts into comprehensible words understood by at least fifteen different clinicians.

I have been a clinical supervisor for a group of nurses since 2014 at one of the hospital sites within our local health district. The nurses’ assists parents with numerous parenting issues through their residential program. The optimistic comments I have received from my group regarding our sessions emphasize how important clinical supervision is for them. Clinical supervision has helped them clarify their clinical perceptions, as these nurses are all mums and are often distressed by some confronting scenarios in their work. For example, encouraging child and mother bonding in substance abusing mums or care plans to encourage cot rooming in, resulting in a confused, distressed and crying baby, can leave the nurses questioning their own values and beliefs. The nurses’ have found that some clinical situations can make them doubt their own parenting and having
clinical supervision helps them to reflect on role definitions and separate their clinical practice from their personal parenting.

The Code of Conduct for nurses’ and New South Wales Drug Health treatment agreement for clients stipulates client confidentiality is imperative and all information about clients must be used for the purpose it was issued for. Drug and alcohol nurses who experience clinical situations where disclosure of client’s illicit drug dealing, sexual assaults while incarcerated or detailed history of child abuse find these disclosures can be quite a burden to carry. Often there is not enough time to discuss or access information from colleagues and nurses carry the negative impact individually, sometimes for days before a clinical review or team meeting makes further discussion possible (Sinclair & Hamill, 2007). Therefore access to clinical supervision and subsequent recommendations for Employee Assisted Program follow up is important, since either environment will allow confidential discussions without fear of repercussions. My personal experience, plus observations from colleagues, peers and my supervisees determine that team clinical reviews can be a limiting forum not allowing transparent and free communication, particularly if a concern pertains to a management or medical decision around clinical care of clients.
Constant exposure to trauma material over time affects cognition and psychological needs including safety, trust, self-esteem, intimacy and control, which are sensitive to disturbances, leading to behaviour changes. The profound impact of the disruptions can lead a nurse to become fearful, less trusting, have a negative self-esteem, distancing themselves from people and inability to take charge. These affects nurses’ professional and personal lives and not being able to understand that this could be slowly happening can leave nurses very vulnerable to distress, confusion and despair (Ewer et al., 2015; Joubert et al., 2013; Rasmussen, 2005; Sinclair & Hamill, 2007).

Clinical supervision allows contemplation of self-behaviour and one’s responses to situations. One of our supervision sessions helped my group of nurses understand that the mothers frequently have the expectation that their three-day admission will result in solving their child’s sleeping issues, as opposed to the realistic expectation that any behaviour change takes time and effort. The mothers’ subsequent disappointed realization then affects or is transferred onto the nurses, who become disillusioned by the ‘failed’ verbal and non-verbal responses emitted by the mothers. Clinical supervision has helped these nurses objectively assess, understand and recognize that the short three-day admissions put them under some pressure. The mothers’ unrealistic expectations to ‘achieve immediate results’ subtly become the nurses’ expectations as well, despite the nurses’ knowledge that this is not probable. These nurses identified they needed to recognize their
limitations, to assist the mothers within these limitations and to get the idea of clinical limitations across to the different personalities that the mothers represent, in a professional and compassionate manner. (Lombardo & Eyre, 2011)

Clinical supervision helped me to understand that it is unrealistic to expect that a specific level of clinical care will ultimately lead to positive outcomes for every client. Additionally, I was able to identify that I may not meet my expected goals when nursing drug and alcohol clients. Goals such as administrating intravenous antibiotics, daily wound care and pre/post-operative procedures were easy to identify and accomplish during my surgical nursing days but drug health nursing is very distinctive and even to articulate a response to a male client, who may have breached personal boundaries, is an awkward uncomfortable task requiring reflective thinking.

Clinicians commencing employment with Drug Health services have diverse education, training and work experience; therefore as Fulton et al. (2016) and West (2012) point out, it is unrealistic to expect new staff to be proficient in drug and alcohol evidence based practices. It is then reasonable to assume that the new clinicians’ will require drug and alcohol specific skills and clinical development with the support of the management, organisation and colleagues. I concur with Roche et al. (2007) and Fulton et al. (2016) that failure in implementing a clinical supervision policy and
program within an organization undermines the provision of optimal clinical care and increases burnout, high staff turnover, loss of skilled workers and reduced positive outcomes for clients.

A new staff member once sat in on a client assessment with me and after the interview informed me that she thought I had not been bonding with the client. After a reflective discussion we recognised, understood and concluded that bonding with a new client is different from bonding with a new person. With a new person we look for mutual interest and acquaintances, variables that are not applicable to bonding with a client. Client bonding may develop from respect, confidentiality, uninterrupted listening, a non-judgemental attitude and boundary setting, applied diligently over time.

When bonding with a new person, we tend to find command ground quickly so we can rule out if we are compatible or not, so further communication can be pursued. This is not applicable to our clients because we are not looking for compatibility, since we engage with clients irrespective of any ‘common ground’. The new clinician was very appreciative of our reflective discussion, as it allowed her to understand client engagement from a perspective that identified client bonding differently within a complex speciality.
Implications for Practice

Sinclair and Hamill (2007) plus Devilly et al. (2009) observe that the higher the ability to empathise, the more ‘at risk’ a nurse is to vicarious trauma. Clinical supervision will assist in helping nurses learn how to psychologically withdraw from clients to help minimise the impact of vicarious trauma. Reflective discussions regarding clinical practice will mean nurses will be able to determine and distinguish between their engagement and communication; whether it is therapeutic, suitably empathetic and client centred or whether it is ‘rescue nursing’ or inappropriate self-disclosure (Fulton et al., 2016; Sinclair & Hamill, 2007).

To perform productively, clinicians need to feel there is absolute organizational support, they have adequate resources, have role clarity, regular update of their skills and opportunities for professional development. These are particularly essential factors for consideration, in light of increasingly aggressive, violent, complex, co-morbidities and poly-drug presentations within clinics. Since these trends are unlikely to abate, priority should be to widen and strengthen clinicians’ skill base and clinical supervision irrevocably supports this goal (Ewer et al., 2015; Fulton et al., 2016; Roche et al., 2007). Formal supervision within the hospital setting is essential in ensuring that staff are provided with a space in which they have a support system in place; allowing reflection on their practice, chance to
deb brief, assess their stress levels, explore alternative clinical perspectives and address education needs (Joubert et al., 2013).

Clinical supervision helps staff to develop the skills essential towards case managing drug and alcohol clients. Nevertheless, I agree with West (2012) and Schmidt (2012) findings outlining the concerns regarding the quality and scope of clinical supervision available to drug and alcohol staff; plus the lack of guided reflection for cognitive development and meaningful growth within a specialized area. The absence of specialist training pertaining to drug and alcohol supervision theories, effective techniques and strategies specific can be detrimental to staff in the wake of gradual development of vicarious trauma (Schmidt, 2012).

Consequently, general clinical supervision will not suffice for a complex area like Drug Health where specialized training is required for a supervisor to promote abilities around attentive behavior, encouraging self-awareness, practice summarization of feeling, communicating trust, case-conceptualization skills and assess areas for self-improvement. The literature clearly elucidates the significance of understanding drug and alcohol clinicians’ specific needs, for example client-case manager boundaries, confidentiality or judicious self-disclosure. Subsequently, given the supervisors’ substantial influence on a clinician’s professional development, specialized training for drug and alcohol clinical supervisors
is essential (Fulton et al., 2016; Lombardo & Eyre, 2011; Roche et al., 2007; Schmidt, 2012; West, 2012).

Conclusion
Clinical supervision helps develop ethical, competent and professional practice within workplace and this manuscript has outlined some narrative examples of how clinical supervision has helped nurses’ with their role definition, clarity, perspective and identification. Ewer et al. (2015); Lombardo and Eyre (2011); Roche et al. (2007); Schmidt (2012); Sinclair and Hamill (2007) lists the benefits of clinical supervision which include confidence and self-efficacy, higher job satisfaction, better staff retention rates, reduced turnover, improvement of complex clinical skills and staff communication, increased evidence-based practice, reduced burnout and stress.

Furthermore, clinical supervision for drug and alcohol staff can assist in transferring newly attained clinical skills from instructional reflections to practice; in addition to providing direction on counseling skills, interpersonal style, ongoing evaluation, improve client-case manager interactions and treatment outcomes for clients. Moreover, on a personal level clinical supervision promotes individual resilience, educates at-risk staff to respond with effective coping strategies to adverse job exposures and reduces risk of mental health disorders like anxiety and depression; functions imperative for positive personal health. My supervisees,
supervision group peers and I have experienced at least one or more of the clinical supervision benefits mentioned, at one time or another of our supervision sessions.

For drug and alcohol staff, the optimum organizational, economical and personal benefits of clinical supervision are self-explanatory when compared to the negative effects of vicarious trauma. Consequently, I believe that clinical supervision supports clinicians to cultivate the coping mechanisms needed to protect themselves from the effects of vicarious trauma.
Reference List:


Industrial Relations Commission of New South Wales, The Public Health System Nurses’ and Midwives (State) Award 2017

Industrial Relations Commission of New South Wales, NSW Health Service Health Professionals (State) Award 2017