

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository:<https://orca.cardiff.ac.uk/id/eprint/157975/>

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Morris, Heather, Hatzikiriakidis, Kostas, Dwyer, Jenny, Lewis, Catrin , Halfpenny, Nick, Miller, Robyn and Skouteris, Helen 2023. Early intervention for residential out-of-home care staff using eye movement desensitization and reprocessing (EMDR). *Psychological Trauma: Theory, Research, Practice, and Policy* 15 (Sup 2) , S456-S464. 10.1037/tra0001418

Publishers page: <http://dx.doi.org/10.1037/tra0001418>

Please note:

Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies. See <http://orca.cf.ac.uk/policies.html> for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.



Abstract

Objective- Residential Out of Home Care (OoHC) staff regularly experience workplace-related trauma. This may contribute to the future development of a trauma or stressor related disorder. Eye movement desensitisation and reprocessing (EMDR) is an effective treatment for stress disorders but is largely unstudied in OoHC staff. The objective of the current study was to determine if EMDR, provided early within three months of an incident, reduced trauma symptom severity in OoHC staff.

Method- During a three-year pilot study (2018-2020), a trained clinician delivered the Recent Traumatic Episode Protocol (R-TEP) and Group Traumatic Episode Protocol (G-TEP) EMDR to OoHC staff from one community service organisation in Victoria Australia. Retrospective data from the post-traumatic stress disorder checklist (PCL-5) were deidentified and analysed using descriptive statistics and analysis of variance. Due to the Covid-19 pandemic, individual EMDR (R-TEP) was provided by telehealth during 2020 in comparison to face-to-face sessions during 2018-2019.

Results- Overall, a significant decrease in PCL-5 scores were seen from baseline to follow up, and staff who received R-TEP or G-TEP experienced reductions in symptoms. Both face-to-face and online modalities showed significant reductions in PCL-5 scores. No significant differences were found between the online or face-to-face modes of delivery suggesting both options are effective. No adverse reactions were reported among the 144 staff who participated.

Conclusion- This study provides evidence for the efficacy of EMDR in reducing traumatic stress symptom severity for residential OoHC staff. A larger, prospective research study is needed.

EMDR for residential out of home care staff

Keywords: Residential Out-of-home-care; Eye Movement Desensitisation and Reprocessing; R-TEP; Covid-19; telehealth

Clinical Impact Statement

Young people with complex trauma can exhibit dysregulated behaviours, often toward their carers. Eye Movement Desensitisation and Reprocessing (EMDR)'s early intervention protocols delivered to carers soon after a significant incident can provide relief from traumatic stress symptoms. The Recent Traumatic Episode Protocol (R-TEP) can be successfully delivered to individuals online — increasing the accessibility and timeliness of treatment. EMDR is an effective adjunct to other therapies and is recognised in the clinical guidelines for post-traumatic stress disorder. Clinicians using EMDR can provide skills for self-regulation which are important for people who continue to work in environments where traumatic incidents occur.

Trauma that occurs in a workplace (defined as experiencing or witnessing a traumatic incident such as violence towards self or others, or injury through the course of work duties) has personal (Heponiemi et al., 2014; Strolin-Goltzman et al., 2010) and organisational (Purdy & Antle, 2021) impacts. Workplace trauma is common among first responders and military personnel (Brooks et al., 2019), but also among social and health workers (Devilly et al., 2009) who work with children exposed to maltreatment, abuse, and/or neglect. Children and young people with a lived experience of trauma can exhibit aggressive and violent behaviour (Aebi et al., 2017), emotional dysregulation (Dvir et al., 2014), and have a poor understanding of social interactions (Richey et al., 2016). Caring professionals seeking to help these children, are often the target of these behaviours. While mostly these incidents are managed without long-term effects, sometimes Acute Stress Disorder (ASD) and in extreme cases post-traumatic stress disorder (PTSD) can result (Lee et al., 2020; Pihl-Thingvad et al., 2019). These clinical conditions are characterised by multiple physical, mental and emotional symptoms that occur for a period of time after an incident (American Psychiatric Association, 2022). The DSM-5-TR recognises that a traumatic incident (actual or threatened death, serious injury or sexual violence) may be from direct exposure, being witness to the trauma of others or indirect exposure through the trauma experience of others, and in a workplace (American Psychiatric Association, 2022). For residential out-of-home care (OoHC) workers, this could include experiencing or witnessing a violent or aggressive interactions, or disclosures of abuse by the young people in their care.

Residential out-of-home care staff have the highest risk of workplace-related trauma and subsequent distress of all social care workers (Harris & Leather, 2012). Despite this prevalence and the undisputed need to support their health and safety, there is a gap in our understanding around the best ways to prevent the development of trauma symptoms and subsequent clinical disorders for OoHC staff. This is particularly concerning as staff with

EMDR for residential out of home care staff

their own trauma history or a lived experience of OoHC may have an increased susceptibility to vicarious trauma and secondary traumatic stress when working in this context (Maunder et al., 2010; Molnar et al., 2020). Research around stress minimisation and management for this cohort focuses on the individual, their resilience (Kind et al., 2020) and self-care (Salloum et al., 2019; Steinlin et al., 2017) capabilities. Other research considers organisational practices as important for the prevention of stress and trauma such as ethical hiring and support (Purdy & Antle, 2021), supervision (Purdy & Antle, 2021; Russ et al., 2020) and models of trauma informed practice (Schmid et al., 2020). Little empirical research however, has considered how to best prevent traumatic stress symptoms in residential OoHC staff following a traumatic incident.

Eye Movement Desensitisation and Reprocessing (EMDR) may assist in alleviating traumatic stress symptoms for residential OoHC staff following a workplace incident. While most people recover from traumatic stress symptoms without long term effect, others go on to develop a clinically diagnosed anxiety disorder. It is hypothesised that traumatic events overwhelm the brain's innate information processing system, and insufficiently processed memories which are stored in a state-specific form (such as images, thoughts, beliefs, sensations and other sensory information) (Shapiro, 2017) contribute to PTSD. During EMDR therapy, patients are asked to vividly reflect on a traumatic memory while rhythmically moving their eyes to a visual stimulus that the therapist moves back and forth. It is thought that the use of eye movement while activating the memory stimulates the information processing system which allows maladaptively stored memories to be fully processed (Landin-Romero et al., 2018). Most international guidelines recommend EMDR as a treatment for PTSD (American Psychological Association, 2017; Phoenix Australia, 2020; World Health Organization, 2013), with evidence that it is equally as effective as Trauma-Focussed Cognitive Behavioural Therapy (TF-CBT). In contrast to TF-CBT however,

EMDR for residential out of home care staff

EMDR does not require detailed descriptions of, or extended exposure to traumatic memories, homework, or direct challenging of beliefs (World Health Organization, 2013).

The Recent Traumatic Episode Protocol (R-TEP) (Shapiro & Laub, 2008) for individuals, and Group Traumatic Episode Protocol (G-TEP) (Shapiro, 2018) for groups are two EMDR protocols widely used for early intervention (within 3 months of a traumatic event), before memories are integrated into long term memory networks (Shapiro & Maxfield, 2019). See Table S1 for more information on these protocols. The procedural steps in the early intervention protocols limit processing to the recent traumatic episode, rather than connecting to historical traumatic experiences, such as those experienced in childhood (Shapiro & Maxfield, 2019). The evidence for EMDR-Early Intervention with individuals and groups suggests efficacy in reducing traumatic stress symptoms and reductions in depression and anxiety (Kaptan et al., 2021; Matthijssen et al., 2020).

EMDR has been used to treat traumatic stress symptoms in employees exposed to workplace-related trauma (e.g., first responders, public transport workers) (Morris et al., 2021; Stergiopoulos et al., 2011; Tarquinio et al., 2016). While residential OoHC staff experience significant workplace-related trauma (Broadley & Paterson, 2020; Harris & Leather, 2012), research evaluating the delivery of EMDR to this population has been minimal. To the authors' knowledge, only two studies have trialled EMDR for staff who provide care to children and adolescents with severe interpersonal trauma (e.g., social workers, protective services workers, psychologists, lawyers, caregivers) (Jarero et al., 2017; Tsouvelas et al., 2019). These studies were conducted face-to-face using group based protocols: G-TEP (Tsouvelas et al., 2019) and Integrative Group Treatment Protocol (Jarero et al., 2017), and did not specifically focus on early intervention. Significant reductions in trauma symptomology were observed over a long period despite returning to the workplace

EMDR for residential out of home care staff

where the trauma occurred (Jarero et al., 2017; Tsouvelas et al., 2019), however there is a gap in our understanding around the efficacy and use of EMDR in residential OoHC staff.

The primary aim of this study was to determine whether EMDR reduces traumatic stress symptom severity and subjective distress for residential OoHC staff who have been exposed to traumatic incidents in their workplace. It was expected that a significant reduction in traumatic stress symptoms would be observed between the two assessment time points. This study was conducted in partnership with MacKillop Family Services, an Australian community service organisation that provides residential care for young people who have been removed from their home due to maltreatment and/or neglect. In 2012 MacKillop embedded the Sanctuary Model (an organisation wide framework that supports the wellbeing of staff through relationship building, crisis management and culture change with a trauma lens) (Bloom & Farragher, 2013) across the organisation, including OoHC homes in 2015. In 2018, MacKillop Family Services (MacKillop) began trialling EMDR as an intervention to support the wellbeing of staff exposed to workplace-related trauma in the residential OoHC setting.

Method

Participants

Residential OoHC staff who experienced workplace-related trauma were referred to the program by a manager or therapeutic practitioner. The EMDR pilot program was implemented within MacKillop Family Services between 2018 and 2020, in Victoria, Australia. The study sample consisted of 131 residential OoHC staff who were participated in the EMDR program following exposure to a workplace trauma, many of which were a Criterion A event (American Psychiatric Association, 2022). This included 100 staff who received individual sessions via the R-TEP protocol and 31 staff who received the group-

EMDR for residential out of home care staff

administered G-TEP protocol. Complete outcome data included in analyses were available for 80 staff (the whole G-TEP group (n=31), and 49 staff who completed the R-TEP protocol. Of these 80 staff, 59 were female (73.8%), and 21 were male (26.3%). Other demographic data such as age were not available. Due to the retrospective nature of this study and difficulties in tracking staff who participated, it was not possible to follow-up participants to collect these data.

Procedure

This study adopted a cross-sectional design using retrospective pre-post data. The Monash University Human Research Ethics Committee (Project ID: 27353) approved the study that included a waiver of consent. As turnover rates are high across the sector internationally (Devilly et al., 2009; Kind et al., 2020; Smith et al., 2021; Steinlin et al., 2017), the three-year study period eliminated any possibility of retrospectively obtaining consent.

The study was based on a stepped model of intervention, beginning by teaching all staff a stress management technique called 4 Elements (Shapiro, 2007); followed by G-TEP for individuals experiencing symptoms of traumatic stress or a recent traumatic event; and individual EMDR for those who continued to have high levels of stress following G-TEP. A three step process was employed: (1) staff experiencing a critical incident or identified as needing support were offered a 30-minute stabilisation and assessment session with the EMDR consultant; (2) if they were able to regulate using the 4 elements, were motivated to attend group treatment and sufficiently stable, they were invited to participate in a G-TEP session; (3) where the staff member was deemed not suitable for group treatment, or continued to have a high level of disturbance following G-TEP, they were offered individual EMDR. Staff were assessed as 'not suitable' for G-TEP if they were unable to regulate using

EMDR for residential out of home care staff

the 4 elements, had a high level of current instability (such as suicidality or severe dissociation requiring individual preparation), or did not want to attend a group. A prior history of trauma was not a reason for exclusion if they were able to regulate, were motivated to participate and were sufficiently stable. A small number of staff returned to their own (non-EMDR) counsellors. Staff referred for individual EMDR were offered up to 5 sessions provided by local, qualified EMDR practitioners trained in R-TEP. To promote early intervention, the criteria for referral to EMDR was refined to encourage managers to refer staff for an EMDR stabilisation and assessment session as soon as possible after critical events.

From March 2020, due to lockdowns and social distancing requirements from the COVID-19 pandemic, it was not possible to deliver sessions face-to-face, so trialling the provision of R-TEP by Telehealth using Zoom began. Clinicians followed the R-TEP protocol for all clients in 2020. The translation of this program was conducted by accredited EMDR consultant and author [JD], who was an approved R-TEP and G-TEP trainer, and contributed to the development of international guidelines for online use of R-TEP and G-TEP during the COVID crisis (EMDR R&G-T-EP International Trainers, 2020) (See Table S1 for more information on the process). Clients generally had access to a computer screen, but on some occasions, when considered safe and feasible to do so, the intervention was provided on a mobile telephone. While some participants were initially uncertain about Telehealth, only one staff member requested sessions be transferred to face-to-face when possible. If more than 5 sessions were needed, and the cause of distress related to work matters, the therapist could request further sessions. Throughout the study period, staff also had access to general counselling through the existing workplace Employment Assistance Program (EAP) if they wished.

EMDR for residential out of home care staff

Several adaptations to the delivery model occurred over the evaluation period. At the start of the pilot project, initial screening and referral for G-TEP was conducted by MacKillop employed Therapeutic Practitioners (TPs) (experienced social workers and psychologists) who provided regular reflective practice sessions and support to the residential care staff. Due to work demands, the role of screening shifted from TPs to the EMDR clinician. Secondly, the intention to provide G-TEP as the first level of intervention was impossible to maintain. Rostering difficulties, crises on the unit, and the unpredictability of the workplace meant that it was difficult to schedule staff to be available in groups. Due to these difficulties, staff who were assessed as suitable for G-TEP were often referred directly to individual treatment after assessment. However, the demand for individual EMDR exceeded available sessions resulting in a wait list for the 2018-19 period, causing frustration for some staff and one staff member concerned at having to travel a long distance. In 2020, with the focus on early intervention and the ability to provide Telehealth, all referrals could be picked up in a timely manner and the need for travel was overcome.

Measures

Data were collected by the clinicians who provided EMDR to OoHC staff. Author and clinician [JD] collated and deidentified the data for the researchers.

Incident Reports

Information on the nature of workplace incidents were initially collected by supervisors and Human Resources personnel and passed onto clinicians as part of the referral process. Data were extracted by the clinician and shared with the research team in a deidentified format.

PTSD Checklist for DSM-5 (PCL-5)

EMDR for residential out of home care staff

The PTSD Checklist for DSM-5 (PCL-5) (Weathers et al., 2013) is a 20-item self-report measure that assesses the severity of traumatic stress symptoms, as detailed under the Diagnostic and Statistical Manual of Mental Disorders 5th Edition, Text Revision (American Psychiatric Association, 2022), and was administered to participants prior to, and during the course of the individual R-TEP protocol of EMDR. The 20 item PCL-5 is a self-report measure where respondents are provided with a list of reactions that people commonly have in response to stressful life experiences and are asked to rate the degree to which they had personally experienced and been bothered by each response in the last month using a 5-point Likert scale (1 = Not at all, 5 = Extremely). These questions cover four subscales: (1) Intrusive, (2) Avoidance, (3) Cognition/Mood, and (4) Arousal. Individual item scores are collated and yield a single index score that acts as an indication of traumatic stress symptom severity. The psychometric properties of the PCL-5 have previously been evaluated with strong internal consistency ($\alpha = .94$), test-retest reliability ($r = .82$), and convergent ($r_s = .74$ to $.85$) and discriminant ($r_s = .31$ to $.60$) validity having been demonstrated (Blevins et al., 2015).

Subjective Units of Distress Scale

The Subjective Units of Distress Scale (SUDS) is a validated instrument used to measure the subjective intensity of distress (Benjamin et al., 2010) and is used in EMDR therapy to identify levels of disturbance related to traumatic memories, before and after the EMDR procedure (Shapiro, 2017). In administering the SUDS, respondents are typically asked to rate their current distress when thinking of a traumatic memory, by providing a value between 0 and 10 (0 = No distress, 10 = Maximum distress). In the current study, SUD ratings were used to measure disturbance related to the entire traumatic episode, before and after the G-TEP session.

Data Analysis

Information relating to reported workplace incidents was analysed and categorised by the research team via inductive content analysis. Frequencies and descriptive statistics were then calculated to synthesise data regarding the types of incidents that were reported across the sample and the sources of stress participants had been exposed to outside of their workplace. Frequencies and descriptive statistics were also calculated to analyse data associated with therapy uptake, including session modality (i.e., in-person or online), therapy completion rates, the number of weeks between the workplace incident and the first session, and the number of sessions that were attended.

To determine the change in PCL-5 scores observed between baseline and post-intervention, a series of mean comparison analyses were conducted. First, the difference in PCL-5 scores between baseline and post-intervention for the entire sample was analysed using a paired samples t-test. The distribution of paired differences for this data was approximately normally distributed, as examined by using Shapiro-Wilk's test ($p = .059$). PCL-5 data were further examined using a mixed two-way analysis of variance (ANOVA) to determine whether there was a difference in outcome data between the two session modality groups, followed by a series of paired-samples t-tests that were conducted post-hoc to analyse the change between assessment time-points within either group. Finally, SUD data collected during G-TEP sessions were analysed using a paired-samples t-test to determine whether a change in disturbance was observed between the start of the session and upon conclusion. In cases where staff participated in both EMDR protocols, their data from the second protocol was excluded from the analysis to avoid confounding (i.e., those who participated in G-TEP sessions prior to R-TEP sessions data were excluded from R-TEP analyses, and vice versa). All quantitative data analyses were conducted in IBM SPSS v27

EMDR for residential out of home care staff

(IBM Corporation, 2020) and the alpha level used for all analyses was $<.05$. Please refer to Figure 1 for data analyses and participant numbers.

Figure 1

Data Analysis Flow Chart



Results

Reported Workplace Incidents

The types of workplace incidents that participants were exposed to across the evaluation period were collected. It must be noted that residential OoHC workers continued to work with young people during the Victorian lockdowns of 2020 and therefore were exposed to incidents during this time. A broad range of workplace incidents were reported across the three-year period totalling 15 individual incidents, refer to Table 1. Ten of the 15 would qualify as a Criterion A incident (American Psychiatric Association, 2022). The most frequently reported Criterion A incident was assault perpetrated by a young person ($n = 22$; 44.9%), followed by ongoing exposure to high-risk behaviour ($n=14$; 28.6%), threats from a young person ($n = 12$; 24.5%), and the suicide of a young person in their care ($n = 10$; 20.4%). There was significant variation in the total number of workplace incidents that staff were exposed to across the sample ($Mdn = 2$, $IQR = 2$), with most participants reporting up to three incidents. Specifically, 18 participants (36.7%) reported one incident, 14 participants (28.6%) reported two incidents, 12 participants (24.5%) reported three incidents, and five participants (10.2%) reported four incidents. Disclosures of traumatic incidents experienced by young people was not noted within MacKillop's operational reporting systems as a workplace incident, however is known to occur.

Table 1

Incident description and staff frequency of experience

Incident	Number of Staff experiencing incident: N (%)	Proportion of Total Reported Incidents (%)
<i>Criterion A incidents:</i>		
Assaulted by a young person	22 (44.9)	14.1%
Ongoing exposure to young people engaging in high-risk behaviour ^a	14 (28.6)	16.5%
Suicide of a young person in the household	10 (20.4)	11.8%

EMDR for residential out of home care staff

Threatened by a young person	12 (24.5)	14.1%
Young person attempted or threatened to attempt suicide	5 (10.2)	5.9%
Direct exposure to a young person engaged in self-harm	3 (6.1)	3.5%
Involved in a car accident at work	3 (6.1)	3.5%
Sexual assault or sexualised behaviour by a young person	2 (4.1)	2.4%
Death of a colleague	2 (4.1)	2.4%
House fire set by a young person	1 (2.0)	1.2%
<i>Other Incidents</i>		
Ongoing generalised stress associated with work	11 (22.4)	12.9%
Vandalism of the household or the client's personal property	3 (6.1)	3.5%
Verbal abuse from a young person	3 (6.1)	3.5%
Workplace conflict between staff members	3 (6.1)	3.5%
Investigation into the suicide of a young person	1 (2.0)	1.2%
Total number of reported incidents	85	

^a Examples of high risk behaviour include young people carrying weapons, self-harm behaviours, suicide attempts, sexual exploitation, theft, substance abuse, threats to staff, and assault

Trauma Symptom Outcomes for EMDR Efficacy

A summary of descriptive statistics for outcome data reported across the sample has been presented in Table 2, including PCL-5 data for participants who received the individually delivered R-TEP protocol, and SUD data for participants who completed G-TEP sessions. Further descriptive statistics about number of sessions and weeks between incident and first session are presented in Table S2. Outcome data underwent a series of analyses and the analysis pathway for these data, including the types of analyses that were conducted and the number of participants that were included in each analysis, refer to Figure 1.

Table 2

Descriptive statistics summarising outcome scores

	R-TEP Protocol (n = 49) Outcome measure- PCL-5 Data				G-TEP Protocol (n = 31) Outcome Measure- Subjective Units of Distress			
	Baseline		Follow-up		Baseline		Follow-up	
	M	SD	M	SD	M	SD	M	SD
Entire sample	35.41	14.10	18.49	12.81	6.35	2.18	3.68	2.31
In-person (n = 37)	38.49	13.76	20.49	13.43	-	-	-	-
Online (n = 12)	25.92	10.85	12.33	8.45	-	-	-	-

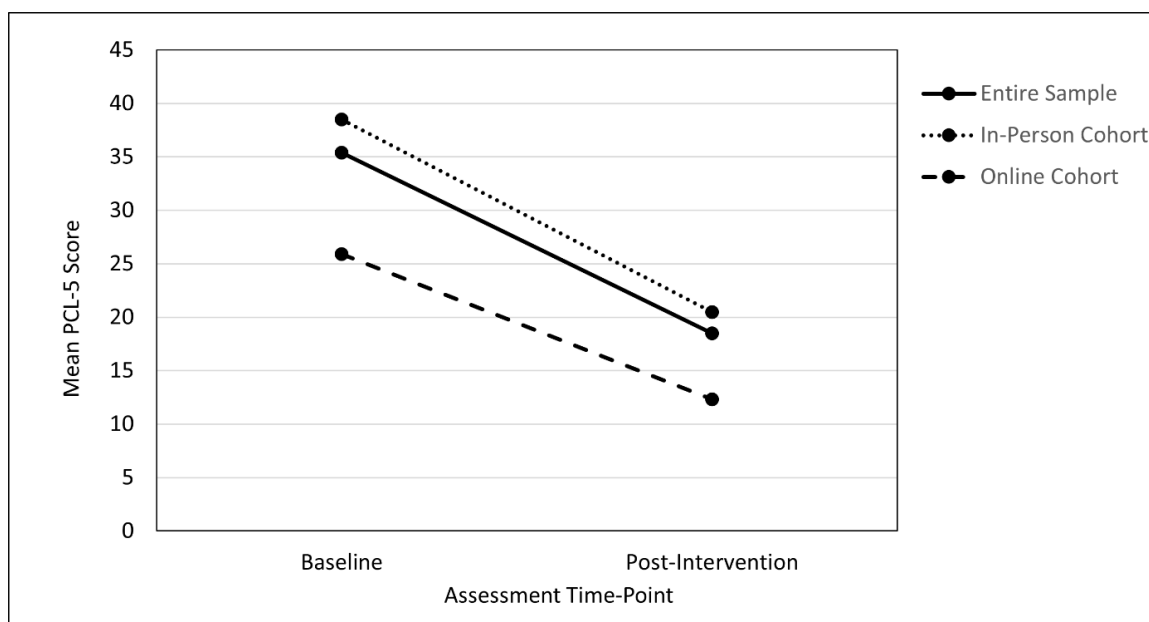
Note. R-TEP Recent Traumatic Incident Protocol; PCL-5 Post-traumatic Stress Disorder

Checklist; G-TEP Group Traumatic Incident Protocol; M Mean; SD Standard Deviation; n Number

PCL-5

A paired-samples t-test was conducted to determine if there was a significant change in PCL-5 scores between baseline and post-intervention for all 49 participants who had complete outcome data available. The analysis revealed a statistically significant reduction from a mean PCL-5 score of 35.41 ($SD = 14.10$) at baseline, to 18.49 ($SD = 12.81$) at post-intervention; $t(48) = 11.99$, $p < .001$, 95% CI [14.08, 19.75], see Figure 2.

Figure 2



Mean PCL-5 scores over time

To determine whether outcomes differed between participants who received EMDR face-to-face ($n = 37$) and those who received EMDR online via videoconferencing during the COVID-19 pandemic ($n = 12$), a mixed two-way ANOVA was conducted. The assumption of homogeneity of variances was met for both baseline ($F = .341, p = .562$) and post-intervention data ($F = 3.564, p = .065$), however a Greenhouse-Geisser correction was applied as the assumption of sphericity was violated ($W = 1.00, p < .001$). The results of the mixed two-way ANOVA revealed a non-significant interaction effect, $F(1, 47) = 1.85, p = .18, \eta^2 = .038$. The main effect of time showed a statistically significant difference in mean PCL-5 scores across the two time-points, $F(1, 47) = 94.38, p < .001, \eta^2 = .67$. Specifically, there was a statistically significant decrease in PCL-5 scores between baseline and post intervention, with a mean difference of 15.79 (95% CI [12.52, 19.06], $p < .001$). The main effect of group revealed a statistically non-significant difference in PCL-5 between the two session modality groups, $F(1, 50) = 3.48, p = .07, \eta^2 = .07$. A series of paired-samples t-tests were conducted post-hoc to examine the change in PCL-5 data within each group and revealed a significant decrease in mean PCL-5 scores between baseline and post-intervention for both the face-to-face modality group ($t(36) = 10.67, p < .001, 95\% \text{ CI } [14.58, 21.42]$) and the online modality group ($t(11) = 5.85, p < .001, 95\% \text{ CI } [8.48, 18.69]$).

Subjective Units of Distress

The SUD data collected during G-TEP sessions were analysed via a paired-samples t-test and revealed a statistically significant decrease in scores between baseline ($M = 6.35, SD = 2.18$) and follow-up ($M = 3.68, SD = 2.31$); $t(30) = 8.22, p < .001, d = 1.48$.

Discussion

This paper describes the use and preliminary efficacy of the R-TEP and G-TEP EMDR protocols in the treatment and prevention of traumatic stress symptoms among residential OoHC staff. To our knowledge this is the first of its kind to solely examine this population, and it offers some compelling albeit preliminary evidence about the efficacy and acceptability of EMDR in this overlooked cohort. The results suggest that EMDR can effectively reduce traumatic stress symptoms among residential OoHC staff. These findings align with previous research that reported improvements in occupational distress following the delivery of EMDR (Morris et al., 2021; Rost et al., 2009; Stergiopoulos et al., 2011; Tarquinio et al., 2016). While we unexpectedly investigated the delivery of EMDR in an online environment via telehealth due to state-wide restrictions introduced during the COVID-19 pandemic in 2020, our findings indicate that the R-TEP protocol can be delivered online with fidelity and efficacy. Specifically, the findings reported herein suggest that the efficacy of EMDR delivered in an online environment is comparable to face-to-face modalities. To the authors' knowledge, the current study is one of few to investigate the efficacy of delivering EMDR online (Lenferink et al., 2020), and certainly the only study to compare the two modalities. This comparison offers a unique view into the efficacy of EMDR and has significant implications for clinical practice and implementation. It further allowed flexibility in delivery, and increased access to trained therapists in regional areas where resources are often less available.

The results of this study also suggest that EMDR offered online may be equally as effective as face-to-face delivery. However, the efficacy of online EMDR delivery among individuals who work in a caring occupation and its efficacy in the broader social context of a public health crisis such as the Covid-19 pandemic has yet to receive a comprehensive evaluation. The Covid-19 pandemic has accelerated the online use of EMDR for workplace-related trauma (Smith, 2021), with both the online delivery of R-TEP and G-TEP protocols

EMDR for residential out of home care staff

being studied (Moench & Billsten, 2021; Perri et al., 2021). A computerised adaptation of G-TEP called the Self-Care Traumatic Episode Protocol (STEP) produced significant decreases in depression, anxiety and stress in a recent randomised controlled trial (Moench & Billsten, 2021). Similarly, a comparison of seven sessions of CBT and R-TEP for Acute Stress Disorder delivered via Skype found both interventions were effective in reducing anxiety, trauma and depressive symptoms (Perri et al., 2021). A recent proof of concept study also found evidence that EMDR can be delivered via video-conference however concluded a clinical trial was warranted (Farrell et al., 2022).

Strengths and Limitations

This study was the first to explore the use of EMDR in residential OoHC staff only and provides some evidence of its efficacy. As this cohort experiences very high levels of traumatic experiences in the workplace, the findings suggest it is important that organisations offer a treatment like EMDR to support the ongoing wellbeing of their workforce. Another strength of this study is the comparative analyses regarding the use of EMDR in both an online and face-to-face modality. The completion rates of the therapy were very high at 77%, with those who discontinued therapy having reasons related to life circumstances rather than the EMDR itself. This suggests that EMDR may be acceptable within this population. The study demonstrated that treatment could be delivered effectively with few sessions, with further scope to examine face-to-face and online ways of supporting staff through R-TEP and G-TEP. Given that treatment provided quick alleviation of symptoms, the study supports early intervention, yet further research is required to see if it prevents later development of PTSD. This paper responds to the previously highlighted limitation that adverse reactions to EMDR were under-reported (Shipley et al., 2022), by ensuring these were measured if they occurred.

The findings of this study must be interpreted with caution in light of several methodological limitations. First, the data were obtained retrospectively and while missing data was accounted for in the statistical analyses, it suggests some caution should be applied when interpreting these findings. The findings were limited by a small sample size for each year, suggesting that the analyses may not have been adequately powered to detect significance with accuracy. Further, there were unequal sample sizes for the treatment modalities which have a statistical impact on the outcomes. Demographics characteristics of the staff were also not available. Finally, this study lacked a qualitative component exploring the perceived need for the EMDR program and the barriers and enablers to program implementation from the perspectives of both the organisation's staff and management.

Future Research

The prevalence of Australian children experiencing at least one adverse childhood experience (ACE) (such as physical, emotional or sexual abuse or neglect, among other experiences) is approximately 72% (Zubrick et al., 2005). The link between ACEs and mental health issues in adulthood is strong (Hughes et al., 2017), speculated to be because ACEs reduce one's capacity to recover from traumatic stress incidents (Barlow et al., 2017). Preliminary data (presented in Supplementary document S3), not fit for publication due to methodological issues, provides a snapshot into the number and range of ACEs and stressful adult experiences of the OoHC cohort studied. Future exploration of the impact that previous childhood and adult adverse experiences can have on the development of future traumatic stress symptoms from a workplace incident is warranted. This would align with current research that has examined this factor particularly as it relates to mental health, (see for example (Farrell et al., 2022; Perri et al., 2021))

Conclusion

This paper offers promising findings that EMDR is an effective intervention in reducing symptoms of traumatic stress in OoHC staff. Given the importance of carers to the wellbeing of traumatised young people, supporting staff may have the dual benefit of reducing staff turnover from traumatic stress which increases the stability of young people in care. Further research is required into the impacts of staff receiving trauma treatment for children and young people. Using two early intervention protocols (R-TEP and G-TEP), allowed the staff to flexibly access individual or group EMDR in a timely manner, without requiring a lengthy therapy relationship or to process earlier experiences of trauma. An interesting finding of the research was that staff benefitted from the EMDR intervention, even when their symptoms did not meet a Criterion A event.

Despite the benefits of G-TEP demonstrated in this study and others (Kaptan et al, 2021; Tsouvelas, 2019), practical barriers prevented it from being quickly and routinely implemented in the residential care setting. Given the ability to scale up G-TEP, and evidence it can be delivered in a computerised form (Moench and Billsten, 2021) further research to overcome barriers is warranted. Given the limitations of this paper, more research with a larger sample size is needed to offer more confidence in these findings overall.

References

- Aebi, M., Mohler-Kuo, M., Barra, S., Schnyder, U., Maier, T., & Landolt, M. (2017). Posttraumatic stress and youth violence perpetration: A population-based cross-sectional study. *European psychiatry*, 40, 88-95.
<https://doi.org/10.1016/j.eurpsy.2016.08.007>
- American Psychiatric Association. (2022). *Diagnostic and Statistical Manual of Mental Disorders: DSM-5-TR*. American Psychiatric Association Publishing.

EMDR for residential out of home care staff

American Psychological Association. (2017). *Clinical Practice Guideline for the Treatment of Posttraumatic Stress Disorder (PTSD) in Adults*. Retrieved from <https://www.apa.org/ptsd-guideline#>

Barlow, M. R., Turow, R. E. G., & Gerhart, J. (2017). Trauma appraisals, emotion regulation difficulties, and self-compassion predict posttraumatic stress symptoms following childhood abuse. *Child Abuse & Neglect*, 65, 37-47. <https://doi.org/10.1016/j.chiabu.2017.01.006>

Benjamin, C. L., O'Neil, K. A., Crawley, S. A., Beidas, R. S., Coles, M., & Kendall, P. C. (2010). Patterns and Predictors of Subjective Units of Distress in Anxious Youth. *Behav Cogn Psychother*, 38(4), 497-504. <https://doi.org/10.1017/S1352465810000287>

Blevins, C. A., Weathers, F. W., Davis, M. T., Witte, T. K., & Domino, J. L. (2015). The Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5): Development and Initial Psychometric Evaluation: Posttraumatic Stress Disorder Checklist for DSM-5. *Journal of Traumatic Stress*, 28(6), 489-498. <https://doi.org/10.1002/jts.22059>

Bloom, S. L., & Farragher, B. (2013). *Restoring sanctuary: a new operating system for trauma-informed systems of care*. Oxford University Press.

Broadley, K., & Paterson, N. (2020). *Client violence towards workers in the child, family and community welfare sector* (CFCA Paper No. 54, Issue. <https://aifs.gov.au/cfca/publications/client-violence-towards-workers-child-family-and-community-welfare-sector>

EMDR for residential out of home care staff

- Brooks, S. K., Rubin, G. J., & Greenberg, N. (2019). Traumatic stress within disaster-exposed occupations: overview of the literature and suggestions for the management of traumatic stress in the workplace. *British medical bulletin*.
- Deville, G. J., Wright, R., & Varker, T. (2009). Vicarious trauma, secondary traumatic stress or simply burnout? Effect of trauma therapy on mental health professionals. *Aust N Z J Psychiatry*, 43(4), 373-385. <https://doi.org/10.1080/00048670902721079>
- Dvir, Y., Ford, J. D., Hill, M., & Frazier, J. A. (2014). Childhood maltreatment, emotional dysregulation, and psychiatric comorbidities. *Harvard review of psychiatry*, 22(3), 149. <https://doi.org/10.1097/HRP.0000000000000014>
- EMDR R&G-T-EP International Trainers. (2020). *Clinical Guidelines for providing G-TEP and R-TEP online during COVID-19*.
<https://www.earlyemdrintervention.org/resources-for-trainers>
- Farrell, D., Fadeeva, A., Zat, Z., Knibbs, L., Miller, P., Barron, I., Matthes, H., Matthes, C., Gazit, N., & Kiernan, M. D. (2022). A Stage 1 Pilot Cohort Exploring the Use of EMDR Therapy as a Videoconference Psychotherapy During COVID-19 With Frontline Mental Health Workers: A Proof of Concept Study Utilising a Virtual Blind 2 Therapist Protocol [Original Research]. *Frontiers in Psychology*, 13.
<https://doi.org/10.3389/fpsyg.2022.901855>
- Harris, B., & Leather, P. (2012). Levels and Consequences of Exposure to Service User Violence: Evidence from a Sample of UK Social Care Staff. *The British journal of social work*, 42(5), 851-869. <https://doi.org/10.1093/bjsw/bcr128>
- Heponiemi, T., Kouvonen, A., Virtanen, M., Vänskä, J., & Elovainio, M. (2014). The prospective effects of workplace violence on physicians' job satisfaction and turnover

EMDR for residential out of home care staff

intentions: the buffering effect of job control. *BMC Health Serv Res*, 14(1), 19-19.

<https://doi.org/10.1186/1472-6963-14-19>

Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., Jones, L., &

Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. *The Lancet Public Health*, 2(8), e356-e366.

[https://doi.org/10.1016/S2468-2667\(17\)30118-4](https://doi.org/10.1016/S2468-2667(17)30118-4)

IBM Corporation. (2020). *IBM SPSS Statistics for Windows, Version 27.0*. In IBM

Corporation. <https://www.ibm.com/au-en/products/spss-statistics>

Jarero, I. N., Rake, G., & Givaudan, M. (2017). EMDR Therapy Program for Advanced

Psychosocial Interventions Provided by Paraprofessionals. *Journal of EMDR Practice and Research*, 11, 122-128. <https://doi.org/10.1891/1933-3196.11.3.122>

Kaptan, S. K., Dursun, B. O., Knowles, M., Husain, N., & Varese, F. (2021). Group eye

movement desensitization and reprocessing interventions in adults and children: A systematic review of randomized and nonrandomized trials. *Clinical Psychology & Psychotherapy*, 28(4), 784-806. <https://doi.org/10.1002/cpp.2549>

Kind, N., Bürgin, D., Fegert, J. M., & Schmid, M. (2020). What Protects Youth Residential

Caregivers from Burning Out? A Longitudinal Analysis of Individual Resilience. *International Journal of Environmental Research and Public Health*, 17(7), 2212. <https://www.mdpi.com/1660-4601/17/7/2212>

Landin-Romero, R., Moreno-Alcazar, A., Pagani, M., & Amann, B. L. (2018). How Does

Eye Movement Desensitization and Reprocessing Therapy Work? A Systematic Review on Suggested Mechanisms of Action. *Front Psychol*, 9, 1395-1395.

<https://doi.org/10.3389/fpsyg.2018.01395>

EMDR for residential out of home care staff

- Lee, W., Lee, Y.-R., Yoon, J.-H., Lee, H.-J., & Kang, M.-Y. (2020). Occupational post-traumatic stress disorder: an updated systematic review. *BMC Public Health*, 20(1), 768-768. <https://doi.org/10.1186/s12889-020-08903-2>
- Lenferink, L. I. M., Meyerbröker, K., & Boelen, P. A. (2020). PTSD treatment in times of COVID-19: A systematic review of the effects of online EMDR. *Psychiatry Res*, 293, 113438-113438. <https://doi.org/10.1016/j.psychres.2020.113438>
- Matthijssen, S. J., Lee, C. W., de Roos, C., Barron, I. G., Jarero, I., Shapiro, E., Hurley, E., Schubert, S. J., Baptist, J., & Amann, B. L. (2020). The current status of EMDR therapy, specific target areas, and goals for the future. *Journal of EMDR Practice and Research*, 14(4), 241-284. <https://doi.org/10.1891/EMDR-D-20-00039>
- Maunder, R. G., Peladeau, N., Savage, D., & Lancee, W. J. (2010). The prevalence of childhood adversity among healthcare workers and its relationship to adult life events, distress and impairment. *Child Abuse & Neglect*, 34(2), 114-123. <https://doi.org/10.1016/j.chiabu.2009.04.008>
- Moench, J., & Billsten, O. (2021). Randomized controlled trial: Self-care traumatic episode protocol (STEP), computerized EMDR treatment of COVID-19 related stress. *Journal of EMDR Practice and Research*. <https://doi.org/10.1891/EMDR-D-20-00047>
- Molnar, B. E., Meeker, S. A., Manners, K., Tieszen, L., Kalergis, K., Fine, J. E., Hallinan, S., Wolfe, J. D., & Wells, M. K. (2020). Vicarious traumatization among child welfare and child protection professionals: A systematic review. *Child Abuse & Neglect*, 110, 104679. <https://doi.org/10.1016/j.chiabu.2020.104679>
- Morris, H., Hatzikiriakidis, K., Savaglio, M., Dwyer, J., Lewis, C., Miller, R., & Skouteris, H. (2021). Eye Movement Desensitisation and Reprocessing (EMDR) for First

EMDR for residential out of home care staff

Responders: A Systematic Review. *Journal of Traumatic Stress*, 5, 778– 790.

<https://doi.org/10.1002/jts.22792>

Perri, R. L., Castelli, P., La Rosa, C., Zucchi, T., & Onofri, A. (2021). COVID-19, isolation, quarantine: on the efficacy of internet-based eye movement desensitization and reprocessing (EMDR) and cognitive-behavioral therapy (CBT) for ongoing trauma. *Brain Sciences*, 11(5), 579. <https://doi.org/10.3390/brainsci11050579>

Phoenix Australia. (2020). *Australian Guidelines for the Prevention and Treatment of Acute Stress Disorder, Posttraumatic Stress Disorder, and Complex PTSD*. Retrieved from <https://www.phoenixaustralia.org/australian-guidelines-for-ptsd/>

Pihl-Thingvad, J., Andersen, L. L., Brandt, L. P. A., & Elklit, A. (2019). Are Frequency and Severity of Workplace Violence Etiologic Factors of Posttraumatic Stress Disorder? A 1-Year Prospective Study of 1,763 Social Educators. *J Occup Health Psychol*, 24(5), 543-555. <https://doi.org/10.1037/ocp0000148>

Purdy, L. M., & Antle, B. F. (2021). Reducing Trauma in Residential Direct Care Staff. *Residential Treatment for Children & Youth*, 1-13. <https://doi.org/10.1080/0886571X.2021.1960240>

Richey, A., Brown, S., Fite, P. J., & Bortolato, M. (2016). The Role of Hostile Attributions in the Associations Between Child Maltreatment and Reactive and Proactive Aggression. *Journal of aggression, maltreatment & trauma*, 25(10), 1043-1057. <https://doi.org/10.1080/10926771.2016.1231148>

Rost, C., Hofmann, A., & Wheeler, K. (2009). EMDR Treatment of Workplace Trauma A Case Series. *Journal of EMDR Practice and Research*, 3(2), 80-90. <https://doi.org/10.1891/1933-3196.3.2.80>

EMDR for residential out of home care staff

- Russ, E., Lonne, B., & Lynch, D. (2020). Increasing child protection workforce retention through promoting a relational-reflective framework for resilience. *Child Abuse & Neglect, 110*, 104245. <https://doi.org/10.1016/j.chiabu.2019.104245>
- Salloum, A., Choi, M. J., & Stover, C. S. (2019). Exploratory study on the role of trauma-informed self-care on child welfare workers' mental health. *Children and Youth Services Review, 101*, 299-306. <https://doi.org/10.1016/j.chidyouth.2019.04.013>
- Schmid, M., Lüdtke, J., Dolitzsch, C., Fischer, S., Eckert, A., & Fegert, J. M. (2020). Effect of trauma-informed care on hair cortisol concentration in youth welfare staff and client physical aggression towards staff: results of a longitudinal study. *BMC Public Health, 20*(1), 21. <https://doi.org/10.1186/s12889-019-8077-2>
- Shapiro, E. (2007). What is an effective self-soothing method I can teach my clients when stressed?(The 4 elements exercises). *Journal of EMDR Practice and Research, 1*(2), 122-124.
- Shapiro, E., & Laub, B. (2008). Early EMDR intervention (EEI): A summary, a theoretical model, and the recent traumatic episode protocol (R-TEP). *Journal of EMDR Practice and Research, 2*(2), 79. <https://doi.org/10.1891/1933-3196.2.2.79>
- Shapiro, E., & Maxfield, L. (2019). The Efficacy of EMDR Early Interventions. *Journal of EMDR Practice and Research, 13*, 291-301. <https://doi.org/10.1891/1933-3196.13.4.291>
- Shapiro, F. (2017). *Eye movement desensitization and reprocessing (EMDR) therapy: Basic principles, protocols, and procedures*. Guilford Publications.

EMDR for residential out of home care staff

Shipley, G., Wilde, S., & Hudson, M. (2022). What do clients say about their experiences of eye movement desensitisation and reprocessing therapy? A systematic review of the literature. *European journal of trauma & dissociation = Revue européenne du trauma et de la dissociation*, 6(2), 100226. <https://doi.org/10.1016/j.ejtd.2021.100226>

Smith, A. (2021). Caring for the carers: EMDR in the context of a pandemic. *EMDR Therapy Quarterly*, 3(4).

Smith, Y., Colletta, L., & Bender, A. E. (2021). Client violence against youth care workers: Findings of an exploratory study of workforce issues in residential treatment. *Journal of interpersonal violence*, 36(5-6), 1983-2007. <https://doi.org/10.1177/0886260517743551>

Steinlin, C., Dölitzsch, C., Kind, N., Fischer, S., Schmeck, K., Fegert, J. M., & Schmid, M. (2017). The influence of sense of coherence, self-care and work satisfaction on secondary traumatic stress and burnout among child and youth residential care workers in Switzerland. *Child & Youth Services*, 38(2), 159-175. <https://doi.org/10.1080/0145935X.2017.1297225>

Stergiopoulos, E., Cimo, A., Cheng, C., Bonato, S., & Dewa, C. S. (2011). Interventions to improve work outcomes in work-related PTSD: a systematic review. *BMC Public Health*, 11(1), 838-838. <https://doi.org/10.1186/1471-2458-11-838>

Strolin-Goltzman, J., Kollar, S., & Trinkle, J. (2010). Listening to the voices of children in foster care: Youths speak out about child welfare workforce turnover and selection. *Social work*, 55(1), 47-53. <https://doi.org/10.1093/sw/55.1.47>

Tarquinio, C., Rotonda, C., Houllé, W. A., Montel, S., Rydberg, J. A., Minary, L., Dellucci, H., Tarquinio, P., Fayard, A., & Alla, F. (2016). Early Psychological Preventive

EMDR for residential out of home care staff

Intervention For Workplace Violence: A Randomized Controlled Explorative and Comparative Study Between EMDR-Recent Event and Critical Incident Stress

Debriefing. *Issues Ment Health Nurs*, 37(11), 787-799.

<https://doi.org/10.1080/01612840.2016.1224282>

Tsouvelas, G., Chondrokouki, M., Nikolaidis, G., & Shapiro, E. (2019). A vicarious trauma preventive approach. The Group Traumatic Episode Protocol EMDR and workplace affect in professionals who work with child abuse and neglect. *Dialogues in Clinical Neuroscience & Mental Health*, 2(3), 130-138.

<https://doi.org/10.26386/obrela.v2i3.123>

Weathers, F., Litz, B., Keane, T., Palmieri, P., Marx, B., & Schnurr, P. (2013). *The PTSD*

Checklist for DSM-5 (PCL-5) - Standard. Retrieved from

https://www.ptsd.va.gov/professional/assessment/documents/PCL5_Standard_form.P

DF

World Health Organization. (2013). *Guidelines for the management of conditions specifically related to stress*. Retrieved from

<https://www.who.int/publications/i/item/9789241505406>

Zubrick, S., Silburn, S., Lawrence, D., Mitrou, F., Dalby, R., Blair, E., Griffin, J., Milroy, H.,

De Maio, J., Cox, A., & Li, J. (2005). *The Western Australian Aboriginal Child*

Health Survey: The Social and Emotional Wellbeing of Aboriginal Children and

Young People. Curtin University of Technology and Telethon Institute for Child

Health Research.