

Original Research

Comparing People's Experience of Therapy for Complex Trauma Across Three Modalities: Face-to-Face, Mixed, and Online

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2022, volume 7, issue 4
doi:10.21926/obm.icm.2204051**Received:** July 29, 2022**Accepted:** October 27, 2022**Published:** November 18, 2022

Abstract

To compare client response to a 3-stage phased intervention for complex trauma, comparing (1) those who received face-to-face intervention with (2) those who received a hybrid of face-to-face moving mid-therapy to online intervention with (3) those who received online only. Comparing quantitative and qualitative outcome data from 3 consecutive groups (N=22) who participated in a 3-stage phased intervention for complex trauma (1) face-to-face intervention (n=7); (2) a mix of face-to-face and online intervention (n=6); (3) online only (n=9). Analysis of quantitative data indicated a reduction in trauma symptoms across all modes of delivery. Reliable change indices suggested that face-to-face intervention facilitated the greatest change. In response to questions, participants spoke about (1) having a positive experience of the intervention, (2) advice to future group members, (3) constructive feedback, and (4) the experience of engaging online. Responses indicated that the experience of all groups were broadly similar. Participants reported strong group connections and an increased understanding of trauma. Minor differences, specific to the practicalities of each group, were



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found in the constructive feedback offered. Comments regarding the online experience highlighted the accessibility of the modality and indicated a sense of diminished group cohesion. Overall, participants reported a preference for face-to-face engagement. The majority of participants benefitted from the intervention regardless of modality. However, there is tentative evidence that the online format was the delivery mode associated with poorer-performing clients. In the future, online engagement and client preference should be considered carefully.

Keywords

Compassion-focused therapy; post-traumatic stress disorder

1. Introduction

Prior to the COVID-19 pandemic, there was a growing body of research indicating the effectiveness of video-based telepsychology for individual and group clinical work with clients of varying mental health presentations (e.g.) [1-3]. A notable benefit of this modality is that support can be more easily accessed by those who are unable to travel or otherwise access it [4, 5]. Research comparing telepsychology to face-to-face therapeutic intervention indicated good user satisfaction, feasibility, and similar clinical outcomes from both formats [6, 7]. However, studies also highlighted clinician concerns regarding the potential impact on therapeutic alliance [8] and the challenges of technical difficulties [9]. For many, the onset of the COVID-19 global health crisis has necessitated a swift familiarization with and adoption of online intervention delivery. The present report aimed to understand the impact of changing the mode of intervention from (1) face-to-face only to (2) a hybrid of face-to-face and online, and (3) online only, on the outcomes and experiences of adults receiving psychological intervention for complex trauma. In the present study, all delivery formats of the intervention utilized Herman's stages of recovery model [10, 11]. Consequently, there were 3 stages to the intervention: (1) establishing safeness; (2) memory processing, and (3) the creation of new connections. The intervention incorporated different evidence-based therapies shown to be effective in reducing symptoms of Post-Traumatic Stress Disorder (PTSD) [12-14]. Compassion-Focused Therapy [15] and the principles of Safe Embodiment [16] informed group sessions that were offered throughout the three stages. Individual sessions of Prolonged Exposure (PE) [17] or Eye Movement Desensitization Reprocessing (EMDR) [18] were offered during stage 2 to support memory processing. The present study aimed to explore the outcomes and experience of participants participating in this intervention before and during COVID-19 restrictions face-to-face, through a mixture of both face-to-face and online, and solely online. To this end, we compared quantitative and qualitative data from three consecutive groups (pre-pandemic; transitioning from pre-pandemic to the beginning of restrictions; during restrictions).

2. Materials and Methods

2.1 Participants

Twenty-two (N = 22) adult consecutive attenders referred to the “Trauma Programme” at [Name of service] by their multidisciplinary team participated in the study. [Name of service and location] not-for-profit mental health service providing in-patient and out-patient services. Under guidance from [Name of service] Ethic’s Committee, ethics approval was not sought as it meets the criteria for a clinical audit using routine outcome measures that are consented to as part of attending the service. Typically, patients referred to the trauma programme and those in this sample have had significant long periods of childhood traumatic experiences. Those with a single episode of trauma would not meet the criteria for the group and so would be referred to a different intervention.

In accordance with inclusion guidelines for the Trauma Programme, all participants met the Diagnostic and Statistical Manual of Mental Disorders 5th Edition (DSM V) [19] criteria for PTSD and all participants scored in the very severe range as measured by the PTSD Symptom Scale-Interview for DSM-5 (PSS-I-5) [20] and all endorsed responses on the Adverse Childhood Experiences (ACE) Questionnaire [21]. On average, participants reported 5.24 ACEs (SD = 1.73; range = 2-8). The frequency of reported ACEs for each participant was summarized in Table 1. The presence and severity of the participant’s psychopathological symptoms were measured pre- and post-intervention. Table 2 visualized the BSI scores across subscales for each participant.

Table 1 Frequency of Aces reported.

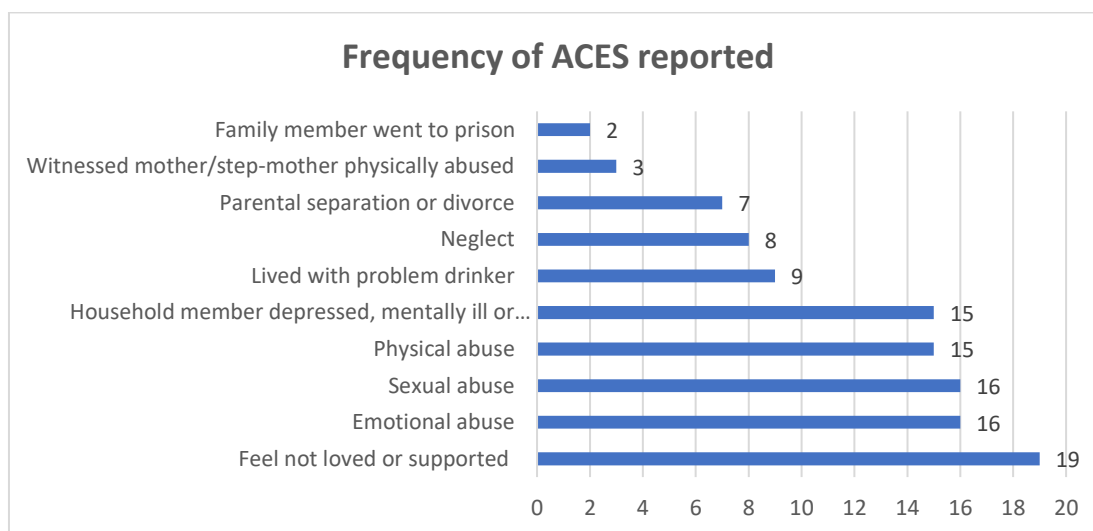


Table 2 Mean BSI scores for Cohorts 1, 2, 3 (pre- and post-intervention) and British outpatient norms.

	Cohort 1 N = 7		Cohort 2 N = 6		Cohort 3 N = 9		British Outpatient norms*
	M (SD)		M (SD)		M (SD)		M(SD)
	Pre	Post	Pre	Post	Pre	Post	
Somatisation	2.71 (0.41)	1.71 (0.93)	2.19 (0.84)	1.79 (1.03)	1.91 (0.74)	1.86 (0.61)	1.14 (0.93)
Obsessive-Compulsive	3.55 (0.81)	2.71 (0.75)	2.47 (0.87)	2.31 (1.07)	3.31 (0.73)	2.76 (0.64)	2.03 (1.02)
Interpersonal Sensitivity	3.54 (0.95)	2.14 (0.64)	2.83 (1.35)	2.08 (0.86)	3.14 (1.29)	2.89 (0.71)	2.08 (1.22)
Depression	3.31 (0.62)	2.33 (0.84)	2.31 (0.79)	1.78 (0.83)	3.09 (0.67)	2.76 (1.06)	1.99 (1.10)
Anxiety	3.38 (0.64)	2.02 (0.90)	3.00 (1.24)	2.25 (1.06)	3.20 (0.98)	2.56 (0.98)	1.87 (1.03)
Hostility	2.14 (0.94)	1.63 (0.63)	1.40 (0.54)	1.80 (1.48)	1.69 (0.62)	1.42 (0.35)	1.39 (1.02)
Phobic Anxiety	2.63 (0.78)	1.69 (0.62)	2.37 (1.11)	1.63 (0.92)	2.56 (0.73)	2.13 (0.86)	1.41 (1.20)
Paranoid Ideation	3.03 (0.92)	1.80 (0.69)	2.30 (1.16)	1.70 (0.55)	2.38 (0.78)	1.95 (0.48)	1.54 (1.08)
Psychoticism	3.26 (0.66)	1.91 (0.54)	2.57 (1.18)	1.83 (0.88)	2.98 (0.63)	2.20 (0.77)	1.45 (0.97)
Global Severity Index	3.07 (0.41)	2.02 (0.52)	2.40 (0.80)	1.94 (0.93)	2.70 (0.50)	2.31 (0.57)	1.65 (0.81)

There were three cohorts in the study. Cohort 1 (n = 7; male = 4: female = 3; age range 42-60 years; mean = 51.43 years; SD = 7.07) completed the intervention in-person immediately prior to the COVID-19 pandemic. Cohort 2 (n = 6; male = 2: female = 4; age range 24-55 years; mean = 42.00 years; SD = 10.43) moved from a mixture of face-to-face and online delivery to an online format at the conclusion of phase 1 (from session 13 of 34) as COVID-19 restrictions were first imposed. And cohort 3 (n = 9; male = 4: female = 5; age range 41-68 years; mean age = 56.71 years; SD = 9.96) completed the full intervention online. All participants were under the care of a consultant psychiatrist and were already taking prescribed psychiatric medication. While on the programme their medication was not changed. There were initially 9 participants per cohort. One participant withdrew from cohorts 1 and 2 midway through the intervention. In addition, 1 participant from cohort 1 and 2 participants from cohort 2 did not return post-intervention measures. Two participants from cohort 3 did not return qualitative feedback.

2.2 Intervention

For cohort 1, the programme comprised 30 group sessions (10 per Stage) with 12 sessions of individual work included as part of Stage 2. Following receipt of feedback from this cohort, 4 additional group sessions were added to the programme in advance of cohort 2 (2 in Stage 1 and 2 in Stage 2). This number of sessions was also used for cohort 3. Individual sessions offered in Stage 2 focused on memory processing through either PE or EMDR (see Table 3 for the programme structure). The mixed modality cohort moved to an online format after completing 13 face-to-face group sessions (the beginning of Stage 2). No group sessions were missed or delayed during this transition and the content and structure of the programme remained unchanged. Online sessions were conducted via the Microsoft Teams (MST) platform. MST was chosen as it enables simple and secure chat, video, and voice communication in keeping with the telehealth guidelines and policy within the service. The programme was delivered by a Principal Clinical Psychologist, a Senior Counselling Psychologist, and an Assistant Psychologist.

Table 3 Structure of Programme.

Stage	Duration ^a	Task of stage	Model
Stage 1	12 group sessions, twice weekly	Establishing Safeness	CFT and safe embodiment
Stage 2	12 group sessions, once weekly, plus 12 individual sessions	Memory processing	CFT and safe embodiment in group sessions. EMDR and PE offered in individual sessions
Stage 3	10 group sessions, twice weekly	Creating new connections	CFT and safe embodiment

^a Above format of intervention offered to cohorts 2 and 3. Cohort 1 were offered 4 fewer group sessions (30 group sessions divided equally between the 3 stages)

2.3 Measures

2.3.1 Quantitative

PTSD Checklist for DSM-V (PCL-5). The PCL-5 [22] is a 20-item self-report measure used to evaluate the degree to which a respondent has experienced PTSD symptoms in the past month. Total scores on this measure range from 0 to 80, with higher scores indicating greater severity of symptoms [23]. It is suggested a cut-off score of 33 and above may be used to identify possible PTSD. The PCL-5 has strong internal consistency, test-retest reliability, convergent and discriminant validity [24].

Brief Symptom Inventory (BSI). The BSI [25] is a 53-item self-report inventory in which respondents rate the presence and severity of a range of psychopathological symptoms over the past week. Nine symptom dimensions are assessed: somatisation, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The Global Severity Index (GSI) is calculated as a summary score indicating the current level of distress reported by respondents across all 53 items. The BSI has been shown to be a reliable and valid measure with acceptable psychometric properties (e.g.) [25-27].

2.3.2 Qualitative

A feedback form was administered to participants following the intervention. Questions on this form specifically sought participants' overall feedback, advice that they would give to another person regarding the programme, and constructive feedback. Additional questions addressing the experience of online engagement were added to the feedback form completed by cohort 2. Questions were again altered to capture the experience of cohort 3 (see Table S1 for the full list of questions).

2.4 Data Analysis

Individual pre- and post-intervention PCL-5 scores for all participants were graphed and compared. To test for overall outcome regardless of therapy delivery format a paired sample t-test was computed to determine if there was a statistically significant change between pre- and post-intervention. Baseline PCL-5 scores were compared across the three delivery formats (face-to-face, mixed, or online only) using a One-Way ANOVA. The interaction between time (pre-, post-intervention) and delivery format (face-to-face, mixed, online only) was analysed using a 2 × 3 repeated measures ANOVA. And to determine the clinical significance of any observed changes, a reliable change index was calculated for each participant using the Jacobson-Truax method [28]. All of these statistical analyses were exploratory and undertaken with an understanding of insufficient sample size. Qualitative feedback from participants was transcribed and coded into themes and subthemes using the methodology described by Braun and Clarke (2006) [29].

3. Results

3.1 Analysis of PCL-5 Responses

A decrease in PCL-5 scores from pre- to post-intervention was reported by 18 of the 22 participants (individual scores are shown in Figure 1, Figure 2 and Figure 3). A paired samples t-test comparing total pre-intervention PCL-5 scores (M = 56.9, SD = 13.9) with total post-intervention PCL-5 scores (M = 34.9, SD = 18.2) determined that this decrease was statistically significant ($t(21) = 4.46, p = 0.00, \eta^2 = 0.49$).

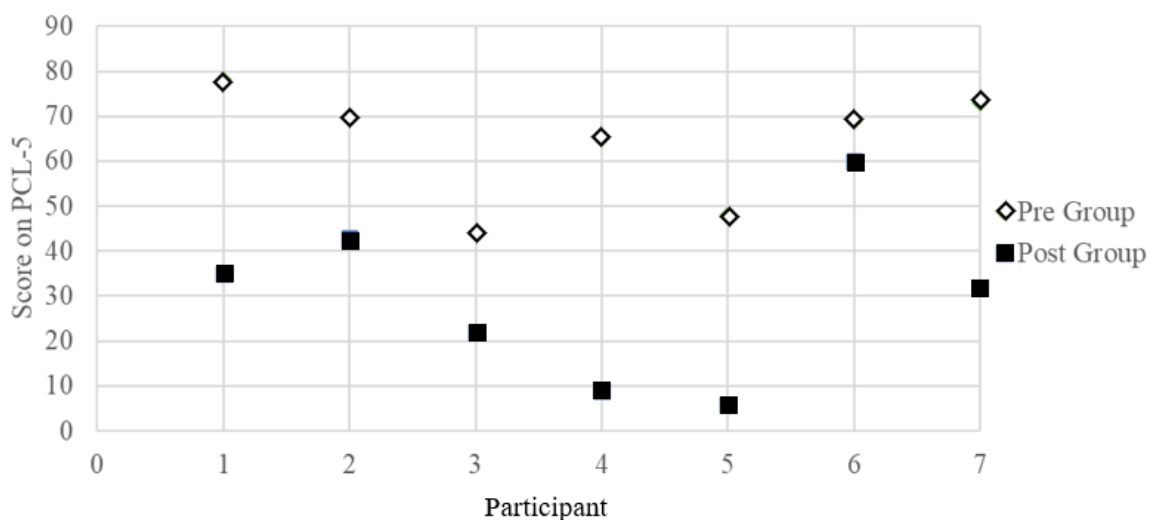


Fig. 1 Pre and Post Intervention PCL-5 scores for participants of cohort 1.

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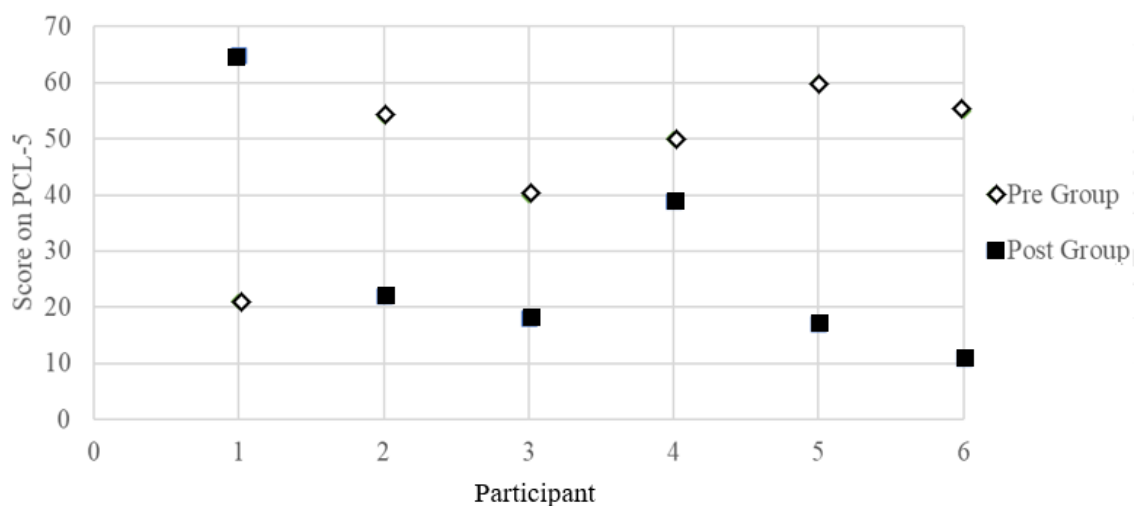


Fig. 2 Pre and Post Intervention PCL-5 scores for participants of cohort 2.

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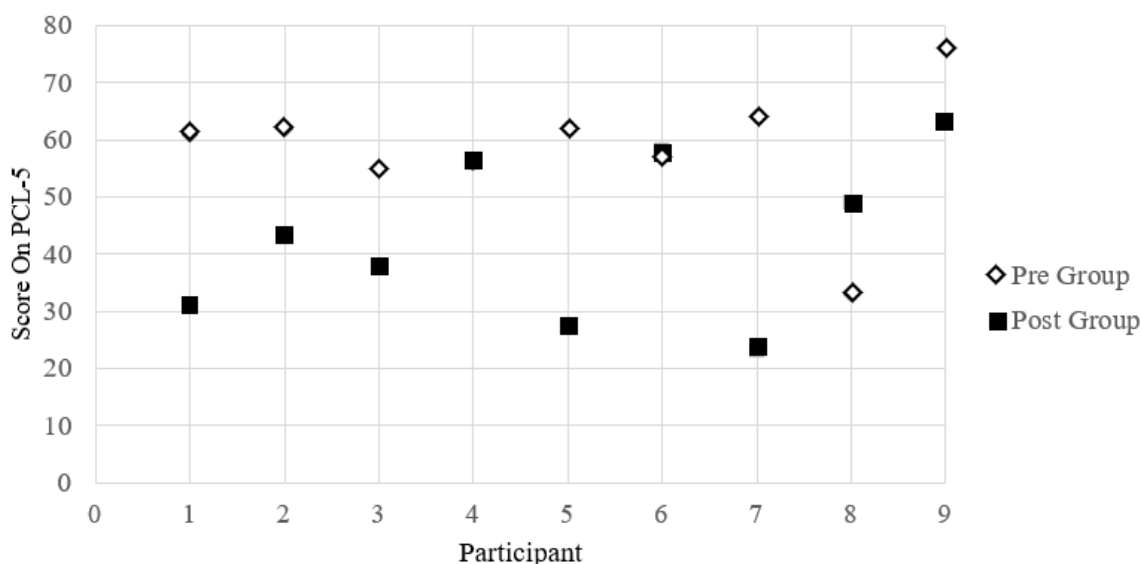


Fig. 3 Pre and Post Intervention PCL-5 scores for participants of cohort 3.

Figure 3 Pre and Post Intervention PCL-5 scores for participants of cohort 3.

One-way ANOVA determined that there was no statistically significant difference between total PCL-5 scores for each cohort at time 1 ($F(2,19) = 3.081, p = 0.069$). A 2×3 (time \times cohort) mixed between within ANOVA was used to investigate the impact of time (pre/post) and format (face-to-face/mixed/online) on PCL-5 total scores. The results showed that there was no significant interaction effect between time and cohort, Wilks' Lambda = 0.86, $F(2, 19) = 1.54, p = 0.24$, partial eta squared = 0.14. There was a substantial main effect for time, Wilks' Lambda = 0.48, $F(1, 19) = 21.09, p = 0.00$, partial eta squared = 0.53, with all cohorts showing an overall reduction in PTSD symptoms from pre- to post-intervention. The main effect comparing the three formats was not significant, $F(2, 19) = 2.82, p = 0.09$, partial eta squared = 0.23.

3.1.1 Reliable Change Index

To ensure that changes in PCL-5 scores were not attributable to chance or measurement error a reliable change index (RCI) was calculated for each participant using the Jacobson-Truax method [28]. In accordance with this method, statistically reliable change was reflected by RCI values larger than 1.96. The cut-off score indicating clinically meaningful improvement on the PCL-5 was 33. Participants were classified as "clinically meaningful improvement" (passed RCI criterion and PCL-5 score decreased to below cut-off score), "reliable improvement" (passed RCI criterion but the score did not decrease below PCL-5 cut-off score), uncertain change (did not pass RCI criterion) or deterioration (passed RCI criterion but symptom score increased).

Results indicated a reliable improvement for 15 of the 22 participants: 6 of 7 for cohort 1, 4 of 6 for cohort 2, and 5 of 9 for cohort 3. Of these, 10 participants were found to have clinically meaningful change: 4 from cohort 1, 4 from cohort 2 and 2 from cohort 3. The uncertain change was determined for 5 participants: 1 from cohort 1, 1 from cohort 2 and 3 from cohort 3. A deterioration in PTSD symptoms was noted for 2 participants: 1 from cohort 2 and 1 from cohort 3. The PCL-5 RCI for participants of the face-to-face, mixed, and online cohorts are shown in Table 4.

Table 4 Reliable Change Index.

<i>PTSD Checklist for DSM-5 (PCL-5)</i>				
Cohort	Reliable Deterioration	Uncertain change	Reliable Improvement	Clinically meaningful change of those with reliable improvement
Cohort 1, n (% ^a)	0 (0)	1 (14)	6 (86)	4 (57)
Cohort 2, n (% ^b)	1 (16.6)	1 (16.6)	4 (66.6)	4 (67)
Cohort 3, n (% ^c)	1 (11)	3 (33)	5 (56)	2 (22)

^a percentage of participants in cohort 1 (n=7)

^b percentage of participants in cohort 2 (n=6)

^c percentage of participants in cohort 3 (n= 9)

3.2 Qualitative Feedback

3.2.1 Overview

Participant feedback was specifically sought in the following areas: (1) overall feedback, (2) advice to future group members, (3) constructive feedback, and (4) the experience of engaging online. Responses were grouped in accordance with these primary themes. The four areas of enquiry and the subthemes that emerged were illustrated in Figure 4 (colour variation indicated whether themes and subthemes were present for all or specific cohorts). Questions pertaining to the experience of engaging online were asked for cohorts 2 and 3 only. Quotes were used to provide the context to the findings presented.

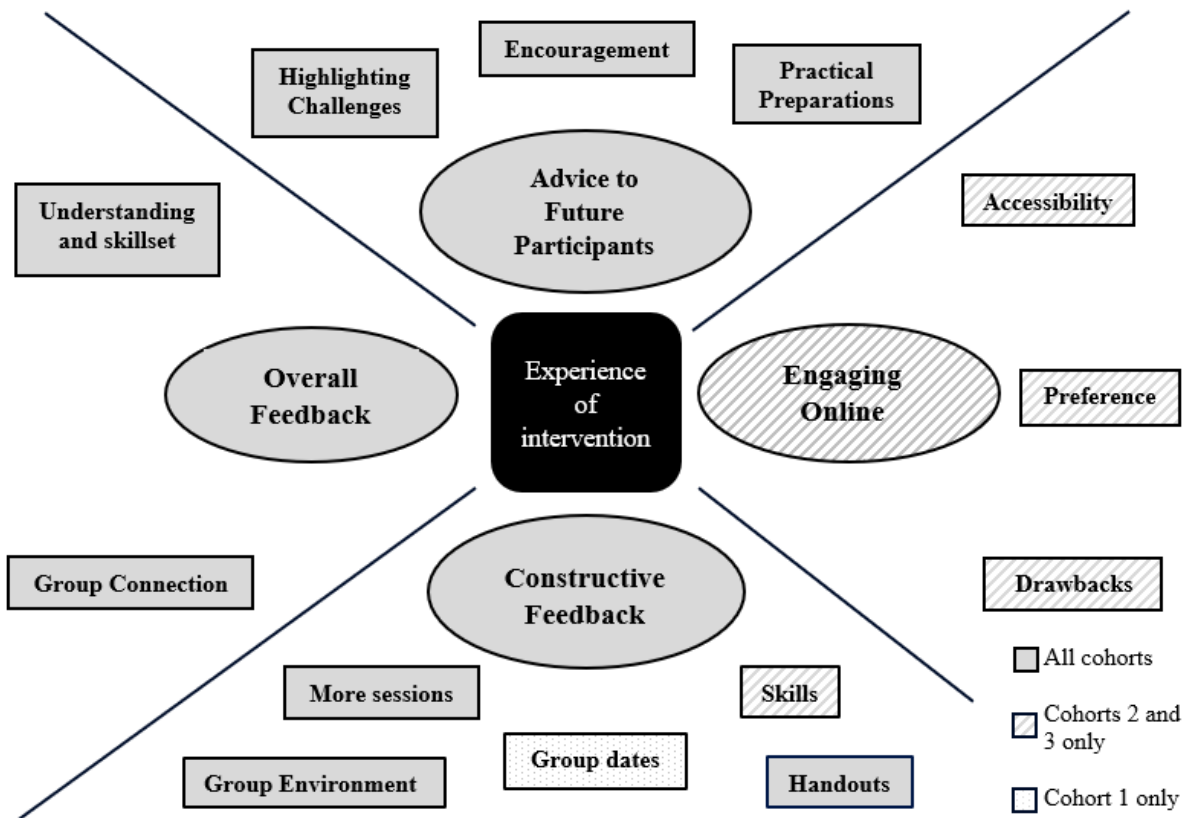


Fig. 4 Areas where participant feedback was sought and the subthemes that emerged

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3.2.2 Overall Feedback

All participants described their overall experience of the programme in a highly positive manner.

“Positive, supportive, learning experience. It was a profound journey of self-discovery. I truly did find my compassion.” (Female 1, cohort 1)

Comments regarding group connection, improved understanding of the impact of trauma and skills development were consistent across cohorts. Participants’ responses indicated a sense of safety and comradery amongst group members.

“The comradery we developed through laying our hearts and minds bare was a truly unique experience.” (Male 2, cohort 2)

A greater understanding of themselves and of the impact of trauma was reported by many participants. Participants from each cohort mentioned that they felt more equipped to manage challenges and commit to practicing the skills learned throughout the programme.

“I learned lots about trauma and ways to help live with it and understand it.” (Male 2, cohort 1)

3.2.3 Advice to Future Participants

The feedback form included the question “What would you tell another client about attending this group?”. Responses were similar across participants and their content was grouped into three categories: encouragement, highlighting challenges, and practical preparation. All respondents encouraged participation in the programme. That the programme and the work involved could be challenging was commented on across cohorts. Participants from each cohort recommended that future attendees make practical preparations for the dedication required of the programme (i.e., securing travel arrangements, and maintaining their physical health).

“Try to bring yourself as you really are into the room. It is hard to trust at first. Try to attend as regularly as possible because there is a thread that runs through all of the sessions.” (Male 1, cohort 1)

3.2.4 Constructive Feedback

Constructive feedback was welcomed by facilitators and offered by participants across the three formats. Responses addressed practical elements of the programme and these comments varied between cohorts (e.g., suggestions regarding physical environment, group dates, and response to handouts). Requests for additional time or skill practice also emerged across modalities. Participants from all 3 cohorts requested additional group, individual, or follow-up sessions. Only participants in cohorts 2 and 3 requested additional skill practice.

“We needed more time or would have benefited from it being a bit longer or maybe a follow-up after the programme finished.” (Male 4, cohort 1)

3.2.5 The Experience of Engaging Online

Participants of cohorts 2 and 3 were asked specific questions addressing the experience of engaging with the programme online. And strong references to engaging online were made throughout the data for both cohorts. Responses centred around three subthemes: accessibility, drawbacks, and preference. Greater accessibility was identified by most participants of cohorts 2 and 3 as the primary benefit of the online format. Participants of cohort 2 particularly commented that continuing group online enabled them to engage with this work when they were not able to. Participants also reported that engaging with the intervention online cut out traveling to and from the service.

“Online wasn’t ideal but worked out good for me as I wouldn’t been able to attend otherwise.” (Female 2, cohort 2 – participant is referencing physical health concerns)

Participants of cohort 3 identified a sense of ease and a reduction in nervousness connected with the online format and engaging from home.

“I found it easier to speak online than face to face cause I’d be a nervous wreck/twitching in leg/uncomfortable. Online that can’t be seen. It was easier to get involved in the group.” (Female 1, cohort 3)

Participants of cohorts 2 and 3 reported strong group connections online. However, a perceived loss of group connection was identified by those in cohort 2 as a drawback of the transition to the online format. Most attributed this to a greater inhibition in their communication.

“Emotions were lost a bit online.” (Male 1, cohort 2)

One participant from cohort 2 noted that while communication was trickier when engaging online, they noticed less inhibition at times.

“I found it more difficult to jump in online and share my thoughts. Through the prism of the online group I was able to articulate the worst thing ever so I would say more disinhibited where it mattered most.” (Male 2, cohort 2)

One participant of cohort 2 noted no difference in their face-to-face and online communication despite noticing it in others.

“My communication was the same but I’ve noticed others (some of them became more distance) and they used the opportunity to hide even more.” (Female 4, cohort 2)

The majority of participants in cohort 3 reported that their communication was less inhibited or unchanged by the online format. Reference was made however to some of the ways that face-to-face communication would differ.

“Online you can’t observe full body language.” (Female 4, cohort 3)

Technical challenges were also named as a factor of the online format. Some participants from cohort 2 referenced the impact of internet connection on communication.

“Online communication is affected by tech problems, wifi issues, etc., it interferes with the flow of speech. When someone is feeling vulnerable and is sharing something difficult that we may not hear clearly it feels awful.” (Female 1, cohort 2)

In addition, one participant in cohort 3 named that seeing themselves on the screen was a challenge of working with video-based technology.

“I didn’t like being able to see my face or that others could see me directly on the screen.” (Female 3, cohort 3)

Preference for either face-to-face or online engagement emerged from both cohorts. Of the six respondents from cohort 2, five reported a preference for face-to-face intervention. The remaining participant reported that the transition to an online format was positive.

“Face to face allows me to fully trust the process, you can tell so much from the body and the face what’s going on inside. Being online somehow allowed us to put on a mask that all is ok.” (Female 1, cohort 2)

Some in cohort 2 compared their experience of meeting in person to that of engaging online. Three participants reported that the group had benefitted from having met in person before continuing the programme online.

“I think it was helpful we met each other and before we jumped online.” (Female 4, cohort 2)

Three of the seven respondents from cohort 3 reported a preference for face-to-face.

“the only issue was the group being online, however, I know this isn’t normally the way it is run, it’s hard to have the group experience online.” (Male 2, cohort 3)

However, when asked, all participants in cohort 3 reported that they would engage in an online group again.

“I definitely would. I found it easy to engage with the participants and I found I was able to open a bit and talk about my trauma. I found that being online you weren’t in the room with the eyes on you/attention focused on you while speaking.” (Female 1, cohort 3)

Participants in cohort 3 were asked if they would be open to engaging in a mixed format where some sessions were held online and others face-to-face. Of the 7 respondents, 5 reported that they would engage with this format.

“I think that this suggestion would be the best of both worlds, so yes I’d be very interested in this.” (Male 1, cohort 3)

Accessibility was a factor for participants with one reporting that the mixed format would reduce the commuting required. A second participant wondered if the mixed format would create difficulty for some.

“Yes, I would be up for that. However, I would just worry that some people could feel geographically discriminated against if this was to happen.” (Male 3, cohort 3)

Two participants reported that they would not engage in a mixed format. One stated that despite this preference, they would welcome the opportunity to meet other group members. The other suggested that the effectiveness of the intervention may be impacted and indicated that there may be a comparison between the two formats.

“Absolutely not, I don’t think a mixed format would work for me, it’s one way or the other. Although in saying that I would have loved to meet the participants in person.” (Female 2, cohort 3)

4. Discussion

The primary aim of this study was to explore whether participants of a 3 stage phase-based intervention for complex trauma who moved, mid-therapy, to online delivery, or who received online-only delivery were as well served in these formats as those who had pre-pandemic face-to-face interventions. To this end, PCL-5 responses from participants across the 3 different modes of

delivery (face-to-face, mixed, and online) were analysed. The results indicated that the format did not have a large impact on the effectiveness of the intervention and that reliable improvements in PTSD symptoms could be achieved across the three modalities. However, the findings from the RCI determined that the best outcomes were reached through face-to-face intervention. This result is an indication that while mixed or online-only formats may be a valid means of delivering interventions for complex trauma, the face-to-face delivery element is associated with stronger outcomes here. An additional finding of this study is the similarities and differences in the different forms of engaging experiences extracted from participants' qualitative feedback. Responses were sought to four areas of enquiry: (1) overall feedback, (2) advice to future group members, (3) constructive feedback, and (4) the experience of engaging online. There was a consistent overlap of subthemes that made up responses evident across the 3 formats which suggested that the experience of engaging online can produce a thematically or broadly comparable experience to those found in face-to-face participation. However, the majority of those who participated online still reported a preference for face-to-face engagement.

All participants reported that their engagement in the programme was highly positive, a profound journey of self-discovery, and an experience of connection with others in a non-judgmental space. It was also reported that the programme enhanced participants' understanding of trauma and aided them in the development of self-compassion. Differences in the constructive feedback offered were specific to the experience of each cohort (e.g., practical suggestions). Participants across modalities requested additional group or individual sessions. However, requests for additional practice of skills were made by those who had engaged via mixed format or online only. Responses to questions about the online format provided further insight into participants' experiences of engaging through this modality. Participants of both the mixed format and online-only cohorts reported that the accessibility offered by engaging online was a positive aspect of this modality. The absence of commuting was highlighted by both groups as a benefit of online engagement. Some who transitioned to online after face-to-face reported that the format allowed them to continue when they otherwise would not have been able to. Participants in cohort 3 noted a reduction in their nervousness and a greater sense of calm connected with engaging with the programme from their homes. Such comments were unique to the online-only cohort and did not arise for the mixed format group. There were similarities and differences between the two cohorts regarding the drawbacks of an online platform. Technical challenges and their impact were reported only by those from the mixed format. While participants across formats reported a strong connection to others in the programme, a perceived loss of group connection emerged from both the mixed and online-only formats. Some from the mixed format reported a greater inhibition in their online communication and that group connection was due to their opportunity to meet face-to-face initially. Participants who engaged solely online did not report the same inhibition in their communication but commented that they would have welcomed the opportunity to meet one another. While all those asked affirmed that they would participate in an online therapeutic intervention again and the majority reported that they would be open to a mixed format, an overall preference for face-to-face engagement was found throughout the data. There is evidence to suggest that a key aspect of what makes group therapy effective may be the cohesiveness and connection experienced among group members [30]. It is worth noting here that participants of the online cohorts perceived a slight diminishing of group connection. This may provide some of the explanations as to some individuals in the online modalities didn't benefit from the intervention as

much as those who engaged face-to-face. Exploration of this issue could provide an interesting avenue for future research.

4.1 Strengths and Limitations of the Study

The comparison of the three different formats in the current study offered a rich indication of the experience of engaging with this intervention online compared to face-to-face. The inclusion of qualitative feedback alongside quantitative data further adds to the strength of this study. In addition, the use of the RCI to indicate clinically meaningful and reliable changes in participants' lives allowed for the detection of the difference in outcome between face-to-face and online cohorts. Due to resources and time constraints, the results of this study were reported based on a small sample with a small number of participants within each group, so results should be interpreted with caution and without making any assumptions about their generalisability. In future research, a larger and more diverse sample could be used to explore the difference in outcomes between face-to-face and online reported here and to test whether results from this small sample could be observable in a larger sample or to examine if there whether gender plays a role in the differences. All participants met the criteria for severe PTSD in the context of multiple childhood adverse experiences meeting the criteria for complex trauma. This study did not compare participants' outcomes relative to the different traumas they experienced due to the small sample size. Further, future research could provide insight into the characteristics of those who responded best to each modality including the different types of abuse they experienced. Meanwhile, the broader societal context at the time of this research may be important to note. It is not possible to infer the extent to which the COVID-19 pandemic and related restrictions may have impacted participants' engagement and experience of the intervention. Related to this, participants of this study who engaged online reported a preference for face-to-face. Future research should seek to reassess this preference when the social gathering is permitted.

4.2 Conclusions

The results of this study indicated that most people engaged in this intervention for complex trauma did well regardless of format. Further, this study suggests that interventions delivered through a mix of face-to-face and online or online only can provide participants with a positive, valid, and rich experience. However, a tentative finding from the data presented here is that some people perform less well when engaging online compared to face-to-face. Currently, there is no way to characterize whose experience is impacted by the online format. In the absence of an empirical basis for determining the cause of this, therapists should consider the potential impact of the online modality on group cohesion and listen to the preference of those engaged with services, as it is likely to be important. Future research with larger sample sizes comparing these modalities is recommended.

Acknowledgments

We would like to thank Mary Rose Kiernan for her group supervision, Dr Richard Booth for his support and Dylan Moore for co-facilitating the face to face group.

Author Contributions

Adjunct Professor Clodagh Dowling, Tara Deehan and Emma Maloney were group facilitators. Emma Maloney, Professor Gary O' Reilly and Adjunct Professor Clodagh Dowling contributed to the conceptualisation, data collection, data analysis and writing and editing the original.

Competing Interests

The authors have declared that no competing interests exist.

Additional Materials

The following additional materials are uploaded at the page of this paper.

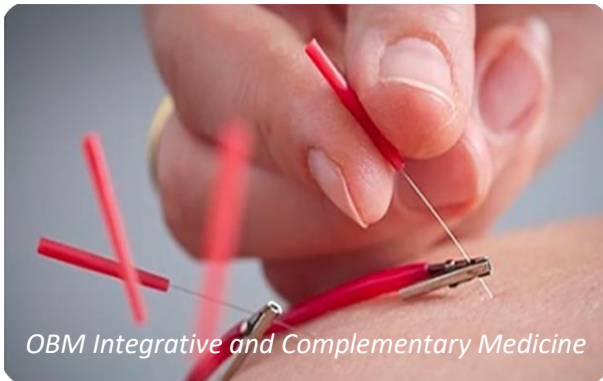
1. Table S1: Feedback form administered to all participants with additional questions for cohorts 2 and 3.

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