



A Pilot Feasibility Study on a Single-Session Stabilization Group Psychotherapy for Adults with Acute Stress Symptoms

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Background: Although the field of psychology currently recommends trauma-focused cognitive behavioral therapy for early psychological intervention for acute traumatic stress, additional research is required for safe and efficient psychotherapy that can be delivered to a broader population and within a brief period of time.

Methods: This pilot study examined the safety and feasibility of a single-session group stabilization intervention for individuals conducted at an average of two weeks after various types of traumatic events. Further development of DSM-5 mental disorders, such as post-traumatic stress disorder (PTSD) and others, was assessed at the six-month follow-up. A total of 38 participants with acute stress symptoms participated in a single-session 90-minute group psychotherapy, which consists of psychoeducation; identification of and coping with triggers; somatosensory grounding; and containment exercise.

Results: After six months, follow-up was conducted on 34 (89.5%) patients, who completed the Structured Clinical Interview for DSM-5 Mental Disorders and the PTSD Checklist-5. One (2.9%) participant met the current diagnosis of PTSD, whereas none met any other psychiatric diagnoses. A significant decrease was noted in PTSD scores between baseline and follow-up ($t=7.4$, $df=33$, $p<0.001$, Cohen's $d=1.27$) measured using the PTSD Checklist-5.

Conclusion: The finding suggests that a single stabilization session can be used in a safe and efficient manner at of the acute stage of trauma.

Keywords Acute stress disorder; Group therapy; Posttraumatic stress disorder; Psychological trauma; Psychotherapy

INTRODUCTION

Early psychological interventions for trauma have received growing attention during the last two decades [1,2]. The aim of such interventions at acute stage of trauma is to decrease acute distress and further to prevent posttraumatic psychopathology such as post-traumatic stress disorder (PTSD) [3,4]. Acute stress response fosters lingering physical health problems such as pain, poor quality of well-being, and health care utilization and increased psychological outcomes such as PTSD,

depression, and anxiety [5]. Besides, subsequent PTSD may persist for years or decades and that those affected by chronic PTSD had to endure poor physical and psychological health and low quality of life [6,7].

Traditionally, psychological debriefing (also known as critical incident stress debriefing) was an intervention of popularity widely delivered to emergency service personnel and later to primary victims within 2 to 10 days after trauma; however, subsequent research showed that psychological debriefing not only failed to reduce or further development of PTSD but in some recipients it

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interfered with natural recovery of acute distress [8-10].

This failure to prove the benefits of debriefing brought forth the basic questions such as whether early psychological intervention is indeed needed and if that is the case, who will be the good candidates for such interventions. According to UK NICE guideline, within one month after trauma, for those formally diagnosed with acute stress disorder (ASD) or those showing above-threshold scores on self-report measures of PTSD, individual trauma-focused cognitive behavioral therapy (TF-CBT) interventions were effective and recommended [11]. Equivalently, clinical guidelines of leading expert organizations such as VA/DoD [12], the World Health Organization [13], and Centre for Posttraumatic Mental Health in Australia [14] have recommended TF-CBT for those suffering from ASD. Meanwhile, only active monitoring was recommended for those exhibiting subthreshold PTSD symptoms [11] implying that target population should those with significant acute stress.

Despite current evidence-based recommendation in favor of TF-CBT, further development in the field of early interventions is needed for following reasons. First, it is about treatment dose, that is length of the intervention. Most TF-CBT studies had treatment sessions in the range of 5 to 12 sessions (7.5 to 18 hours), either delivered weekly or biweekly [2]. The treatment extends to the period of one month to three months after trauma which is in the time frame of acute PTSD. In addition, many with ASD symptoms will recover rapidly within one to three months after the traumatic events [15]. Thus, it is of question that the treatment should be as intensive in length as standard PTSD therapy and we need to look at brief version of therapy.

Second, some still do not respond to established treatment such as CBT; one study noted that CBT accelerated recovery of slow-remitting group (27%) of ASD trajectories, but did not impact on the other two groups of rapid improving or non-remitting trajectories (56% and 17%, respectively) [15]. Vigorous research is needed to fill this gap and to develop effective psychological interventions as early intervention studies on other than CBT are very scarce [16].

Third, along with effectiveness safety requirements should be met, that is the therapy should be guided through 'first do no harm' principle. It is often suggested that recounting of trauma such as sharing one's own traumatic experience with others or exposure to traumatic materials from group members too early after the

trauma may interfere with natural recovery as seen in psychological debriefing [8]. In similar vein, extensive exposure work at early phase after trauma may not be appropriate for some individuals with severe symptoms, unresolved past trauma, or marked ongoing stressors [17]. One emerging area in trauma treatment is emphasis of stabilization. It originally stems from phased approaches for complex PTSD, where initial period of intervention for establishing safety through psychoeducation, emotional regulation skills, stress management, social skill building, and cognitive restructuring before proceeding onto exposure to traumatic memory [18]. This principal also applies to interventions at immediate or mid-term post disaster or mass trauma, where the therapy should aim at promoting safety, calming, sense of efficacy, connectedness, and hope [19]. Likewise, psychological first aid, internationally endorsed approach in acute trauma aims at safety, calming, efficacy, connectedness, and hope after trauma exposure [20].

Recently, single or double-session brief interventions have emerged as promising early intervention strategies for preventing PTSD [2]. These include Group 512 psychological intervention model from critical incident stress debriefing [21], eye movement desensitization and reprocessing protocol for recent critical incidents [22] and brief dyadic therapy from CBT [23]. Although these interventions with some other single-session therapies [24,25] stem from different treatment orientations, the therapy, as a rule, is organized with psychoeducation, coping or relaxation skills, and resource or motivational enhancement. In a previous study, Chung et al. [24] examined a single-session stabilizing group intervention of psychoeducation and affect regulation skills for 464 school children aged between 10 to 12 years after four days after trauma. The subjective distress was significantly decreased after treatment and 48% had a decrease of more than 50% of distress score from the traumatic experience. We used a further developed a single-session manualized group protocol for adults at acute stage of trauma [26] and the current study investigated the feasibility including safety and tolerability of such stabilization intervention for adults with acute stress symptoms. Our research question was whether this intervention could be delivered safely without distress, and development of post-traumatic psychopathology followed up after six months.

MATERIALS AND METHODS

1. Participants and procedure

Recruitment was conducted through advertisement and referral at Handong University in Pohang, Seongdong Mental Health Center in Seoul, and Hanyang University Guri Hospital in Guri, Korea from March 2017 to August 2018. Inclusion criteria were 1) age between 18 to 70, 2) presentation within one month of trauma, 3) score of 3 or more the Primary Care PTSD Screen for DSM-5 (PC-PTSD-5) [27], and 4) ability to use the Korean language. Exclusion criteria were 1) intellectual disability and neurocognitive disorders, 2) severe medical condition, 3) psychotic illness, and 4) current psychiatric treatment.

This study was approved by the Research Ethics Board of Hanyang University Guri Hospital (IRB No. 2015-05-013), and informed consent was obtained from each participant. A final 38 survivors participated and completed the treatment, and 34 (89.5%) were followed-up after six months. Follow-up was performed by either telephone or face-to-face interviews that lasted approximately an hour; a self-report PTSD measure and structured diagnostic interview were administered. Participants received imbursement corresponding to 80 US dollars for the follow-up interview.

2. Measures

1) Primary Care PTSD Screen for DSM-5

The PC-PTSD-5 is a brief screening measure for DMS-5 PTSD and consists of one item for traumatic

events and other five for clinical symptoms (nightmare, avoidance, hyperarousal, detachment, and guilt or blaming others). It has received psychometric investigations for the original English and the Korean translated versions [27,28]. One study with US veterans has recommended a score of three as optimally sensitive value (highest kappa score and acceptable specificity); Korean version also displayed the score of three as optimal cut-off point for detecting PTSD among civilians. Thus, eligibility to enter this study was the score three or more of the Korean version of the PC-PTSD-5.

2) PTSD checklist-5

The PTSD checklist (PCL)-5 is a 20-item self-report measurement tool assessing the DSM-5 version of PTSD symptoms. The original version has undergone psychometric evaluation and provided the excellent reliability and validity, particularly, when considering factorial validity fit with DSM-5 criteria [29]. The Korean version used in this study showed high internal consistency and good concurrent validity with other established PTSD measures [30]. We administered the Korean version of PCL-5 before the treatment and at follow-up after 6 months.

3) Structured Clinical Interview for DSM-5 Mental Disorders

The Structured Clinical Interview for DSM-5 Mental Disorders (SCID-5), Clinical version is a semi-structured interview that assesses DSM-5 mental disorders including mood disorders, psychotic disorders, substance use disorders, anxiety disorders, obsessive compulsive disorder, PTSD, attention deficit/hyperactive disorder,

Table 1. The contents of a single-session stabilization group therapy

Protocol component	Minute	Description
Introduction	5	Introducing therapists and participants Brief explanation of agenda and the session
Psychoeducation	20	Providing information on definition of trauma, common posttraumatic reactions and their meanings, course, and treatment
Identification of triggers	10	Identification of external and internal triggers for intrusion or distress Discussion of coping strategies
Somatosensory grounding	30	Teaching and exercising grounding skills to stay at present time and space by sensory or motor modalities including visual, auditory, tactile sensation, or motor movement
Containment exercise	20	Development and exercising of visual imagery for containing posttraumatic distress
Closure	5	Gaining feedback and explaining future plan

and adjustment disorder [31]. The Korean version of the SCID-5 was administered to 34 participants who were followed up after six months.

3. Intervention

Participants received a single 90-minute intervention in small group (2 to 6 members) presided over by one of three therapists: two clinical psychologists and a psychiatrist, all board specialized with at least 3 year-experiences in trauma treatment practice. After the treatment, participants were asked to report any distress during after the session and overall experience with the therapy and none have reported the distress. The session was comprised of 1) introduction (5 min), 2) psychoeducation about trauma and reaction (20 min), 3) identifying triggers (10 min), 4) somatosensory grounding (30 min), 5) containment exercise (20 min), and 6) closure (5 min). The detailed description of the session including therapist' verbatim ac literatim can be found in the form of therapist protocol [26].

The intervention begins with greeting and introduction among therapists and participants followed by therapist's explanation of agenda and brief summary of the session. Next, therapist gives psychoeducation in the form of interactive lecture: definition of trauma; normalization and validation; common psychological and somatic reactions to trauma; meaning of such reaction; course of distress over the time; further help and resources. After questions from the participants if any, therapy moves onto identifying triggers. This phase begins with providing rationale, definition of triggers, identification of external and internal triggers, and discussing prior and future coping. Following somatosensory grounding involves teaching and exercising multisensory and motor grounding exercises: visual, auditory, tactile, and motor grounding. The next step is to create a visual imagery for containment of any posttraumatic distress and to rehearse it in the session. If any, positive emotion or sensation is associated, they will be enhanced through imagination. Final stage is closure where participants can share feedback and therapists provide future plan after the therapy (Table 1).

4. Data analysis

For comparison of PCL-5 scores between baseline and at follow-up, we conducted paired t-test and Cohen's d

calculation for its effect size. Statistical significance was set at $\alpha=0.05$ (two-tailed).

RESULTS

1. Sample characteristics

Sociodemographic and clinical characteristics are shown in Table 2. Participants (n=38) had a mean 36.9 years of age (95 % confidence interval [CI], 31.0-42.8) and received treatment at a mean 14.6 days after trauma (95 % CI, 12.9-16.2). Eight (21.1%) individuals had previous history of psychiatric treatment. The most common traumatic event was earthquake (n=18), followed by accidents (n=8), physical assaults (n=6), witnessed death

Table 2. Baseline characteristics of participants (n=38)

Variable	Value
Sex	
Male	10 (26.3)
Female	28 (73.7)
Marital status	
Married	13 (34.2)
Not married	25 (65.8)
Employment	
Employed/students	29 (76.3)
Unemployed/not working	9 (23.7)
Education	
Below high school	6 (15.8)
High school graduate	24 (63.2)
University or more	8 (21.1)
Annual income (US dollars)	
<20,000	4 (10.5)
20,000-39,999	21 (55.3)
>40,000	13 (34.2)
Index trauma	
Earthquakes	18 (47.4)
Accidents	8 (21.1)
Physical assaults	6 (15.8)
Witnessed death (loss)	4 (10.5)
Traffic accidents	2 (5.3)
Psychiatric history	
Yes	8 (21.1)
No	30 (78.9)
Age (y)	36.9±17.9
Days after trauma	14.6±4.9

Values are presented as number (%) or mean±standard deviation.

(n=4), and traffic accidents (n=2).

2. Assessment after six months

Among 34 participants who were followed-up at six-month, one (2.9%) was diagnosed as full PTSD. Three participants met the criteria for current major depressive disorder and one for current PTSD, that preceded the onset of index trauma. Current adjustment disorder was diagnosed in one participant due to unrelated stressor after the index trauma. The PCL-5 scores significantly decreased after six months: initial value was mean score of 31.5 (standard deviation [SD]=14.3) and follow-up value at six months was mean score of 12.5 (SD=11.6) ($t=7.4$, $df=33$, $p<0.001$). Effect size was Cohen's $d=1.27$ (95% CI, 0.81-1.72).

DISCUSSION

In this study, none of those who received a single-session stabilization group stabilization have reported distress during or after treatment. The treatment was safely delivered to those with acute stress symptoms. This is consistent with 'do no harm' principle of acute trauma and the current consensus for early trauma intervention that psychological intervention at this stage should not focus on the catharsis and exploration of trauma, that but stabilization of affect and coping skill building should be provided [19,32]. It is not known how common exacerbation of symptoms during psychotherapy with ASD; one study noted that 14.7%-28.6% of participants in a TF-CBT trial have reported that they had such experience during sessions, although exacerbation during PTSD treatment did not last to the end of treatment [33].

Six months after that therapy, PTSD symptoms significantly decreased after six months and one participant (2.9%) had developed PTSD after therapy. No other psychopathological conditions were found related to the index trauma including adjustment disorder, depressive disorder, anxiety disorder, substance use disorder and etc. Our findings do confirm the effectiveness of single session therapy to decrease ASD symptoms and to prevent further development of PTSD, because one cannot rule out the effect of natural recovery for ASD symptoms. Nonetheless, our rate (2.6%) is much lower compared to the 31% PTSD rate at seven months after trauma among emergency visitors with ASD [15].

Although the baseline and follow-up prevalence of PTSD varies widely across studies [34], the improvement from acute stress over time is clear as seen in a systemic review; median prevalence of PTSD was 28.9% at one month but at six months was 14.9% among PTSD trajectories from 35 populations [35]. However, longitudinal change that is decrease in PTSD symptoms and prevalence does not seem to be robust; a multi-site study of traumatically injured patients have found that the rate of PTSD at 3, 12, and 24 months later remained constantly over time [36].

Our study investigated any development of other post-traumatic psychiatric disorders in addition to PTSD at follow-up. These comorbid or independent conditions are often neglected in the field of trauma research. Approximately 80% of individuals with PTSD have at least one concurrent psychiatric disorder including affective disorders, anxiety disorders, substance abuse, and dissociative disorders [37]. One longitudinal study found that adjustment disorder was the most common mental illness arisen after trauma exposure [38]. More complete coverage of posttraumatic psychopathologies and no development of such conditions at six-month assessment further add to the strength of our intervention.

Moreover, compared to multiple-session psychotherapy, current intervention is more efficient; the brief duration and group format can allow treatment to be provided to a larger population and in situations with limited treatment resources often is the case at aftermath of trauma. Current status of TF-CBT as early intervention is delivered with a range of 4.5 to 18 hours, often extending to one to three months after trauma [2].

Overall, our finding supports use of a single-session intervention for acute phase of trauma. Single-session early interventions that emerged in recent literature targets different populations including military rescue workers [21], technical disaster survivors [22], and disaster volunteers [39], school children witnessing deaths [24], and children inpatients [25]. However, they have very similar composition of the session involving psychoeducation (giving information on trauma reactions and normalization of experience), teaching coping skills to distress (affect regulation or relaxation exercises). Some interventions add resource building or positive psychology.

Several limitations of this study should be noted. First, the uncontrolled nature of this study and small sample size require a caution for interpretation and generalization of results. By design, one cannot rule out that im-

provement by natural course of time. In fact, in a waitlist controlled study, trauma-exposed adults who received a single-session psychoeducational intervention showed higher symptoms than control group of no treatment [40]. Thus, a controlled clinical trial is essential to prove effectiveness of current intervention. Second, participants in this study had heterogeneous trauma types and diverse demographic characteristics that may influence the response and acceptability of therapy. Further, subgroup analyses or study on mediating factors are needed with larger sample. Third, a longer follow-up period, such 12 months, may provide better understating of the clinical course of participants. Fourth, this study lacks an immediate post-treatment evaluation and use of a scale specific for ASD. Nonetheless, this is a pilot study that examined a single intervention for acute trauma survivors and confirmed safe delivery to those suffering from acute stress symptoms. Future study should investigate effectiveness and tolerability with a larger sample size at various stages of time after trauma.

CONFLICTS OF INTEREST

The authors have nothing to disclose.

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