

The Counting Method: Applying the Rule of Parsimony to the Treatment of Posttraumatic Stress Disorder

David Read Johnson and Hadar Lubin¹

The authors contend that the primary therapeutic element in psychological treatments for posttraumatic stress disorder is imaginal exposure, and that differences among major approaches are determined more by secondary techniques designed to circumvent the client's avoidant defenses against exposure. A study is described comparing Prolonged Exposure, Eye Movement Desensitization and Reprocessing, and the Counting Method with 51 multiply-traumatized women. Measures of PTSD were significantly reduced by all three methods, but differences among the methods were negligible. Because the Counting Method utilizes only imaginal exposure as a therapeutic element, support is given to the more parsimonious conclusion that imaginal exposure may be both the necessary and sufficient factor in therapeutic effect, countering a trend in the field toward more complex, multi-faceted treatment packages.

Key words: Brief treatment; PTSD; women; imaginal exposure; counting method

The lively debate occurring within the trauma field has led to an increasing array of psychological treatments, which involve increasingly complex arrangements of therapeutic elements, and accompanying theoretical justifications. In this article, we wish to apply the rule of parsimony in an attempt to persuade the reader that the state of affairs in the psychological treatment of trauma may be simpler than currently appears.

Our contention is this: the primary therapeutic element in effective treatments for PTSD symptoms is imaginal exposure. Differences among techniques can be largely explained by the different methods through which the client's avoidant responses to imaginal exposure are circumvented or inhibited. The need to differentiate methods from each other has therefore preferentially focused on these secondary aspects, upon which theoretical justifications then are built. The result has been an obfuscation of the role of the central therapeutic factor underlying most approaches.

There is a consensus among major psychological approaches to PTSD treatment, including exposure therapy, cognitive-behavioral therapy, and Eye Movement Desensitization and Reprocessing (EMDR), that imaginal exposure to the traumatic memory will lead to the

¹ Post Traumatic Stress Center, 19 Edwards Street, New Haven, Connecticut 06511 and Department of Psychiatry, Yale University School of Medicine, New Haven, Connecticut, 203-624-2146, 203-624-2791 (fax), ptsdcenter@sbcglobal.net

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habituation and diminution of the fear response, based on well-established principles of learning theory (Foa, Keane, & Friedman, 2000). All major approaches include some form of imaginal exposure as a central element. The challenge in treatment is how to deliver this imaginal exposure when the clients' avoidant defenses become activated in order to protect themselves from the anticipated distress. We propose that the major differences among PTSD methods are due to differences in approach to handling the client's avoidant responses. It therefore may not matter which method of circumventing avoidance is used, as long as a dosing of imaginal exposure is delivered. This may explain why in general significant differences in treatment outcomes among different methods have not been found.

To explore our proposal, we will report on a study that directly compares two well-established PTSD approaches: Prolonged Exposure (PE) (Foa, Rothbaum, Riggs, & Murdock, 1990), and Eye Movement Desensitization and Reprocessing (EMDR) (Shapiro, 1997), with the Counting Method (CM) (Ochberg, Johnson, & Lubin, 1996), a more recently developed method that is a highly streamlined application of imaginal exposure. Our contention will be supported if all three treatments have comparable therapeutic effects.

Prolonged Exposure Treatment (PE). Prolonged Exposure Treatment (PE) was developed by Edna Foa and her colleagues, is a leading approach to PTSD treatment, and has achieved a high level of empirical support (summarized by Rothbaum, Meadows, Resick, & Foy, 2000). Prolonged exposure treatment is based on a learning model of anxiety in which continued avoidance of the feared situation prevents habituation and/or extinction of the fear response (Foa, Steketee, & Rothbaum, 1989; Foa & Rothbaum, 1998). The goal of treatment is to activate the trauma-related material and expose the client (through imaginal and in vivo stimuli) over a prolonged period of time until the anxiety diminishes. A variant of this theory, called emotional processing theory, emphasizes that corrective information is incorporated by the client that decreases the unrealistic thoughts associated with the fear structures (Foa & Kozak, 1986). Exposure-based treatments have been named implosive therapy, flooding, and prolonged exposure, in order to distinguish them from systematic desensitization, a method that relies on relaxation methods to reduce anxiety and fear (Wolpe, 1958). Prolonged exposure treatments induce a high state of arousal in the client, which has been shown to be essential to the therapeutic effect (Foa, Riggs, Massie, & Yarczower, 1995). Exposure treatments have been shown to be an effective treatment for a wide range of trauma victims (Boudewyns, Hyer, Woods, Harrison, & McCranie, 1990; Cooper & Clum, 1989; Foa, Rothbaum, Riggs, & Murdock, 1991; Foa et al., 1999; Keane, Fairbank, Caddell, & Zimering, 1989; Keane & Kaloupek, 1982; Tarrier et al., 1999).

Prolonged Exposure's protocol consists of a series of nine sessions which include elements of psychoeducation, breathing/relaxation practice, written homework, in vivo exposure homework between sessions, verbal discussion, and a central element of imaginal exposure both in session and between sessions. In-session exposure requires the client to describe the scene to the therapist repeatedly between 45-60 minutes (Foa & Rothbaum, 1998; Foa, Rothbaum, Riggs, & Murdock, 1990).

PE addresses the client's avoidant responses through presentation of the rationale of the method, direct encouragement, reassurance, and availability by phone between sessions (Foa & Rothbaum, 1998).

Though PE clearly attributes the therapeutic effect to imaginal exposure in the habituation of the fear schemas and responses, the method incorporates a large number of other elements that may or may not be required for any additional benefit. It is possible that the resulting complexity and intensity of this approach has interfered with its dissemination among mental health professionals, despite established empirical support.

Eye Movement Desensitization Reprocessing (EMDR). The EMDR procedure described by Shapiro (Shapiro, 1989; Shapiro, 1995; Shapiro & Forrest, 1997) was developed specifically for the treatment of traumatic memories and stress-related symptoms. The technique has been widely disseminated among mental health professionals and is currently a major form of PTSD treatment (Chemtob, Tolin, van der Kolk, & Pitman, 2000). In the EMDR procedure, after a preparation phase, clients are requested to follow with their eyes the therapist's fingers, which are moved rapidly from side to side in order to generate rhythmic, multi-saccadic eye movement. During that time, the client is asked to visualize the traumatic event. Irrational cognitions are also addressed in this procedure. EMDR is based on a combination of learning theory and information processing models (Shapiro, 1995). This form of treatment does not rely on relaxation techniques, detailed verbal reporting, or evocation of high levels of arousal. A growing number of studies have found significant improvement among veterans (Boudewyns, Stwertak, Hyer, Albrecht, & Sperr, 1993; Carlson, Chemtob, Rusnak, Hedlund, & Muraoka, 1998; Pitman et al., 1996), sexual assault victims (Edmond, Rubin, & Wambach, 1999; Rothbaum, 1997), and mixed trauma samples (Marcus, Marquis, & Sakai, 1997; Vaughn, Wiese, Gold, & Tarrier, 1994; Wilson, Becker, & Tinker, 1995).

Though Shapiro accepts that imaginal exposure is a "necessary element" in EMDR (Shapiro, 1995, p. 311), she and her colleagues maintain that the eye movements make an independent contribution to the primary therapeutic effect, including both psychological and neurological processes. However, a developing consensus based on dismantling studies indicates that EMDR without eye movements provides equivalent significant therapeutic effect (Chemtob et al., 2000; Hembree & Foa, 2003).

A possible explanation for these contradictory proposals is that the eye movements, while not directly contributing to the therapeutic effect, are indeed a means by which the client's avoidance is circumvented, as we propose. By providing the external focus and the repeated dosing of exposure, the eye movements interfere with the client's avoidant response. Dismantling studies which eliminate the eye movements are likely to have instituted other means of addressing the avoidance.

The Counting Method (CM). The counting Method (CM) was recently developed by Ochberg (1996) is perhaps the most pared down version of an imaginal exposure technique, which includes a minimum of other therapeutic elements. The central action involves the therapist counting out loud from 1 to 100 as the client brings the traumatic memory into awareness and remembers it chronologically from just before its initiation to just after its end. The procedure includes a preparation phase, in which the rationale is presented and a specific memory is identified; the counting phase in which the client remembers the event as the therapist counts; a review phase in which the therapist discusses the recollection process with the client (Johnson & Lubin, 2005). The method does not rely on cognitive restructuring (as in EMDR), homework or in vivo exposure (as in PE). Similar to EMDR, the Counting Method allows the

client to remember the traumatic event privately, that is, without detailed verbal communication to the therapist (as is required in PE).

In this method, the role of the counting is viewed as a structuring technique to aid the client in maintaining focus on the traumatic memory and thereby inhibit avoidance. The knowledge that the exposure will come to an end at 100 presumably offers a measure of control and predictability to the client. The therapeutic effect is assumed to be the habituation of the fear response as a result of the imaginal exposure to the memory.

The method has been manualized (Ochberg, Johnson, & Lubin, 1996) and has been utilized in clinical settings by trained therapists. To date, there have been no empirical studies of this method.

Current Study. The current study compared Prolonged Exposure, Eye Movement Desensitization and Reprocessing, and the Counting Method in a community sample of multiply-traumatized women with PTSD. Each of these three treatments utilizes imaginal exposure as a central element in the desensitization process in addition to unique elements particular to its approach. All three methods have been manualized. The study design utilized a waitlist (standard treatment) control group, randomization to treatment condition, blind evaluations using standardized measures, assessment of therapist adherence, and competence, and a three-month follow-up evaluation.

If a method such as the Counting Method, which includes only imaginal exposure, was to be as effective as more developed methods such as EMDR and Prolonged Exposure, which include imaginal exposure as well as other elements, then, by the rule of parsimony, there would be strong support for our contention that imaginal exposure is the primary therapeutic element in successful psychological treatments for PTSD.

Method

Participants

Fifty-one female victims of psychological trauma were recruited through local referring agencies and clinicians to take part in a brief treatment study. Participants satisfied diagnostic criteria for PTSD as measured by the Mississippi PTSD Scale (MISS) (Keane, Caddell, & Taylor, 1988), and the presence of at least one traumatic memory that upon imaginal re-exposure resulted in a Subjective Units of Distress (SUDS) of at least 6 (scale from 1 to 10). Exclusion criteria were presence of psychosis, or hospitalization within the past year. All of the participants had been in ongoing supportive individual psychotherapy from four months to ten years prior to this study, and all participants continued with their standard treatment during the study. None of the participants had had, or was receiving, any form of exposure therapy. The waitlist control group was therefore actually a standard-treatment condition. Fourteen participants were entered into the waitlist control condition, given the initial evaluation, and then evaluated again three months later. Three persons dropped out of this condition prior to the final evaluation, leaving 11 participants. These participants were then offered treatment independent of the current study.

Thirty-seven participants were recruited directly into the active conditions. Ten participants dropped out (nine after the initial evaluation but before attending the first session with a

therapist, and one after the first meeting prior to being assigned to a specific treatment). No participant dropped out once she had initiated treatment. This dropout rate is consistent with similar studies (e.g., Foa et al., 1991). At the conclusion of the study, there were 11 waitlist controls, and 27 active treatment participants, nine in each of three treatments, for a total of 38 separate participants. Power analyses of previous studies showing effect sizes between 1.50 and 2.00 for PE and EMDR indicated that this study design had sufficient power to test the main effects for each treatment. Participants provided written informed consent after the study was completely described, and were paid \$40 for each of the three evaluation sessions.

Traumatic Memory

The most significant traumatic experience that was currently distressing the participant was identified as the Index Trauma. The index trauma was required to have a SUDS value of over six to be included in the study. The mean initial SUDS for the entire sample was 8.70 (SD=1.34). The treatment conditions aimed to reduce the PTSD symptoms accompanying this memory. On average, participants reported suffering 4.21 (SD= 3.46) traumatic events during their lifetime.

Evaluation

Evaluations were conducted at Pre-treatment, Post-treatment, and at Follow-up by a research assistant blind to the treatment condition of the participant. The Post-treatment evaluation occurred approximately three months after the Pre-treatment evaluation, and the Follow-up evaluation three months later. At the pre-treatment timepoint, background demographic and trauma-related measures (i.e., age at traumatization, type of trauma, identity of perpetrator, dissociation during trauma) were collected, based on the measures used by Foa et al., 1991. Each evaluation consisted of the Mississippi Civilian PTSD scale (MISS)(Keane, Caddell, & Taylor, 1988), Clinician Administered PTSD Scale (CAPS)(Blake et al., 1990), Beck Anxiety Scale (BECK-A)(Beck, 1987), Beck Depression Scale (BECK-D)(Beck, 1987), and the SCL-90 (Derogatis, 1977). In addition, the participant was asked to narrate in detail her index traumatic memory, which was audiotaped. A SUDS rating was taken immediately after this narration (SUDS-REEXPOSURE).

Assignment to Condition

After screening and acceptance into the study, active treatment participants were randomly assigned to one of the three therapists, each of whom had been trained in each of the three study treatments. After meeting with the therapist in Session 1, the specific treatment condition was then randomly selected by the study authors, and the therapist and participant were informed. This design feature was implemented in order to measure the initial treatment alliance, independent of treatment condition. The study continued until the three therapists had completed three participants in each of the three treatment conditions.

Procedure

Session 1 consisted of a structured introductory session in which the therapists introduced themselves, reviewed the study procedures, inquired about the participant's life and background, identified her Index Trauma and accompanying symptoms, taught her the SUDS measure, and

conducted a breathing relaxation exercise. In Session 2, the specific treatment was described and begun. Each session was 75-90 minutes long and was scheduled weekly. The total number of sessions was guided entirely by the specific treatment manual – consistent with the study’s intent to compare treatment approaches – and therefore the “dosing” of sessions was not equivalent. Mean number of treatment sessions for each approach were: PE: 9.66 (SD=.51), EMDR: 6.33 (SD=.93), CM: 5.89 (SD=1.10).

Process Measures

After the first session, the therapists filled out a questionnaire regarding their assessment of their alliance with the client (ALLIANCE: three questions, range 3 - 27). At the same time, the participants filled out a questionnaire rating their confidence in the therapist’s competence (COMPETENCE: three questions, range 3 -27). After session 2, the participants filled out a questionnaire regarding their confidence in the efficacy of the treatment as it was explained to them (CONFIDENCE: three questions, range 3 -27). At the end of each session, the participants rated themselves on the SUDS regarding the level of arousal (END OF SESSION SUDS, range 0 - 10). Participants and therapists also filled out a brief questionnaire after each session about their assessment of the efficacy of the session (SUBJ AND TH OUTCOME: three questions, range 3 - 27).

Therapist Training

Three female therapists (two Ph.D. psychologists and one M.D. psychiatrist), who had completed their training specializing in posttraumatic stress disorder, were trained in each of the three procedures over the course of one year prior to participant enrollment. Dr. Edna Foa conducted a 15-hour training on Prolonged Exposure. The therapists attended and completed Level One and Level Two training in EMDR (30 hours). Dr. Frank Ochberg conducted a 15 hour training in the Counting Method. Each therapist then practiced these methods on participants not included in this study, under supervision by senior practitioners and in compliance with the respective treatment manuals (Foa, Rothbaum, Riggs, & Murdock, 1990; Ochberg, Johnson, & Lubin, 1996; Shapiro, 1997).

Therapist Adherence and Competence

Each therapist attempted to follow each procedure strictly according to the respective treatment manual. All EMDR sessions were videotaped, and all Counting and PE sessions were audiotaped. Adherence ratings were made by supervisors on randomly selected audiotapes or videotapes of actual sessions. Each therapist was continuously supervised on each case by senior supervisors familiar with the particular method. Participants also filled out evaluation questionnaires at every session rating the therapist’s competence. Every attempt was made to minimize therapist bias throughout the study, by monitoring therapists’ attitudes towards each method, and underscoring the need for the therapists to self-monitor their own potential biases and deliver the treatment as best they could according to the treatment manuals.

Data Analysis

Differences in outcome between Pre- and Post-Treatment timepoints were first analyzed by repeated measures ANOVAs contrasting the waitlist group to the experimental groups combined. Those measures with a significant interaction effect (indicating a difference between active and waitlist groups) were then subjected to a second repeated measures ANOVA (3 Treatments x 2 Timepoints) comparing the three active conditions to determine both the main effect for Time (treatment outcome), and interaction effects (indicating differences among the three treatments). It was expected that there would be a strong main effect for Time and nonsignificant interaction effects.

Similarly, differences among the three active treatment conditions across Pre- to Post - to Follow-up timepoints were analyzed by repeated measures ANOVAs (3 Treatments x 3 Timepoints). Significant interaction effects would indicate differences among the treatments. Differences in outcome among the three therapists were also analyzed by repeated measures ANOVAs (3 Therapists x 3 Timepoints).

Results

Dropouts

Pre-treatment measures on the 13 dropouts were compared with completers, and significant differences were found on two variables: BECK-A (Dropouts: 42.00 (13.21) vs. Completers: 26.54(16.36), $t = 7.53$, $p < .01$), and participants' initial SUDS- REEXPOSURE rating (Dropouts: 9.70(.82) vs. Completers: 7.77(2.18), $t = 4.54$, $p < .05$). However, there were no differences on the PTSD measures (MISS and CAPS), Beck Depression, or SCL-90. Dropouts appear to have been more anxious about being re-exposed to their memories

Demographic Factors

Participants were of heterogeneous backgrounds in terms of social status, education, employment, and income. Their mean age was 38.90 ($SD = 10.10$). Two-thirds were employed; 83% were Caucasian; 60% were currently single; 62% had children; and 31% had completed college. There were no significant differences among groups on these variables.

Trauma Factors

Table 1 lists the trauma-related variables for the participants' Index Traumas. Approximately half of the sample had been traumatized as children, either with sexual or physical abuse and usually by a family member. One-third had been traumatized as adults by rape (usually by a stranger), and 4% had been traumatized by motor vehicle accident. The active conditions were largely evenly divided across these categories, and chi square analyses of these differences were not significant ($p > .30$).

Table 1
Trauma-related Factors in Treatment Sample (N=27)

Measure		N	Percent
Age at Traumatic Event	Child	13	48%
	Adult	14	52%
Type of Trauma	Rape	10	37%
	Physical abuse	9	33%
	Sexual abuse	7	26%
	Motor Vehicle	1	4%
Perpetrator Type	Family member	14	52%
	Stranger	11	41%
	Acquaintance	2	7%
Dissociation at Time of Trauma	Minimal	5	19%
	Moderate	16	59%
	Severe	6	22%

None of the trauma-related factors were significantly correlated with any outcome measures, indicating that all three treatments were equally effective across these categories.

Process Variables

There were no significant differences among the process variables across the four study conditions. Therapists' ratings of ALLIANCE, as well as participants' ratings of COMPETENCE and CONFIDENCE in treatment were moderately strong (means ranging from 20 - 24 out of a possible score of 27). Participants' ratings of therapist's COMPETENCE and therapists' ratings of ALLIANCE were moderately correlated ($r=.48$, $p<.05$), but participants' ratings of therapist COMPETENCE and CONFIDENCE in treatment were uncorrelated. At the end of treatment, there were no differences among treatments in the therapists' or participants' ratings of OUTCOME, which were moderately high (means ranging from 19 to 23 out of 27). None of these self-reported ratings of ALLIANCE, COMPETENCE, or CONFIDENCE, taken during the beginning of treatment, were significantly correlated with any of the standardized outcome measures, suggesting that treatment effects were not influenced by relationship factors. There were no significant differences in outcome in relation to the number of treatment sessions delivered.

Therapist Effects

Repeated measures ANOVAs comparing outcome measures across each of the three therapists showed no significant differences on any measure, indicating that the therapists were equally effective.

Pre-Post Comparisons by Treatment Condition

Omnibus ANOVAs contrasting waitlist with treatment groups resulted in significant interaction effects for CAPS-Total ($F(1,36)=13.12, p<.001$), CAPS-Reexperiencing ($F(1,36)=11.15, p<.002$), CAPS-Avoidance ($F(1,36)=9.68, p<.003$), CAPS-Hyperarousal ($F(1,36)=4.80, p<.04$), Mississippi ($F(1,36)=8.58, p<.006$), and SUDS ($F(1,36)=17.45, p<.001$). Nonsignificant interaction effects occurred for SCL-90 ($F(1,36)=3.16, p<.10$), BECK-A ($F(1,36)=.96, p>.10$), and BECK-D ($F(1,36)=2.85, p<.10$) measures. These results indicate that the active treatments primarily targeted PTSD symptoms rather than more general psychiatric symptoms. The treatment effect for the Hyperarousal cluster was less robust, consistent with recent reports (Zayfert & DeViva, 2004).

Table 2 lists the results of the secondary ANOVAs which examined the main effect for Time and interaction effects among the three conditions. Data for the waitlist groups are included only for reference.

As indicated in Table 2, these measures show very strong effects for Time, indicating that the active treatments reduced these symptoms by Post-Treatment, and very weak interaction effects, indicating that there were no perceptible differences among the treatments.

Pre-Treatment to Follow-up Comparisons

Also indicated in Table 2 are the ANOVAs across all three time periods, which indicate very strong effects for Time, indicating that gains made by Post-Treatment were maintained at Follow-up. Again the interaction effects were negligible, indicating no perceptible difference among the treatments. Effect sizes of the active treatments among the PTSD-related measures from Pre-treatment to Follow-up [CAPS = 1.66; MISS= 1.20; SUDS= 1.69] were greater than those of the general psychiatric or physiological measures (SCL-90= .77, BECK-A= .58; BECK-D= .63), suggesting that these treatments did preferentially target PTSD symptoms.

Clinical Significance

Overall, 44% of the participants in the active conditions reduced their CAPS scores more than two standard deviations. The overall CAPS score for the entire sample was reduced to a sub-clinical level (equivalent to a score of 1.26 on the basic CAPS scale of 0 - 4). MISS was reduced from a mean of 122 to 105, just under the criterion score for PTSD. General psychiatric measures showed reduced but still clinical levels of distress (e.g., Beck Depression: sample mean = 16.37)

Table 2
 Repeated Measures ANOVAs for Pre-Treatment, Post-Treatment, and Follow-up Timepoints on Selected Measures

Measure	ANOVAs						
				<u>Pre-Post</u>		<u>Pre-Post-FU</u>	
	Pre-Tx	Post-Tx	FU	Time	Interaction	Time	Interaction
				F(1,24)	F(2,24)	F(2,48)	F(4,48)
CAPS - Total							
Counting	82.00	54.00	53.89	38.09***	.13	35.30***	.85
SD	13.77	25.29	26.69				
EMDR	61.78	35.33	24.56				
SD	16.04	17.05	18.36				
PE	72.00	49.11	50.22				
SD	19.79	26.19	25.40				

Waitlist ¹	64.27	64.00					
SD	24.82	25.42					
CAPS- Re-experiencing							
Counting	23.11	12.78	10.67	74.25***	.29	65.28***	.89
SD	7.02	11.21	8.46				
EMDR	19.78	7.67	4.78				
SD	5.91	6.82	4.79				
PE	19.67	9.78	10.00				
SD	8.59	9.55	9.10				

Waitlist ¹	16.36	13.09					

SD 7.67 9.98

ANOVAs

Measure				<u>Pre-Post</u>		<u>Pre-Post-FU</u>	
	Pre-Tx	Post-Tx	FU	Time	Interaction	Time-	Interaction
				F(1,24)	F(2,24)	F(2,48)	F(4,48)
CAPS - Avoidance							
Counting	33.22	22.78	24.89	21.81***	.05	19.76***	.61
SD	5.85	9.39	12.25				
EMDR	23.66	13.11	9.67				
SD	7.21	9.52	7.84				
PE	30.56	21.44	22.00				
SD	10.90	11.59	9.62				

Waitlist ¹	27.54	28.64					
SD	13.02	13.65					
CAPS - Hyperarousal							
Counting	25.67	18.44	18.33	12.61**	.65	12.26***	1.03
SD	4.58	7.02	8.47				
EMDR	18.33	14.55	10.11				
SD	5.92	7.18	8.05				
PE	21.78	17.89	18.22				
SD	3.60	7.29	8.18				

Waitlist ¹	22.18	22.27					
SD	7.88	5.83					

Measure	ANOVAs						
				<u>Pre-Post</u>		<u>Pre-Post-FU</u>	
	Pre-Tx	Post-Tx	FU	Time Interaction F(1,24)	Time Interaction F(2,24)	Time Interaction F(2,48)	Time Interaction F(4,48)
MISS							
Counting	134.22	123.67	115.56	20.66***	1.61	30.00***	.79
SD	7.86	12.58	12.75				
EMDR	104.78	98.78	85.67				
SD	25.05	23.87	28.24				
PE	127.56	110.89	105.44				
SD	23.05	21.28	19.74				

Waitlist ¹	114.82	117.27					
SD	24.29	28.04					
SUDS							
Counting	9.00	4.67	4.56	56.68***	3.03	43.96***	1.89
SD	.87	2.59	3.05				
EMDR	7.11	4.88	4.33				
SD	2.31	1.62	1.66				
PE	8.89	3.56	3.56				
SD	.78	2.69	3.28				

Waitlist ¹	8.00	7.82					
SD	2.05	2.14					

** $p < .01$ *** $p < .001$

¹Included only for reference; not part of analyses.

Discussion

This study suggests that three forms of brief treatment for PTSD - Prolonged Exposure, Eye Movement Desensitization and Reprocessing, and the Counting Method - are effective in reducing PTSD symptomatology among traumatized women. These treatments were less effective in reducing general psychiatric distress. The data also indicate that these treatments have a low risk: no participant showed any significant worsening, and only three participants showed no improvement (one from each condition). No similarities could be identified among these three persons. In most cases, participants experienced improvement in symptoms that had been unchanged despite months or years of standard psychotherapeutic treatment. These outcome data are consistent with a large number of previous studies.

Of more importance for the hypotheses of this study, differences in outcome among the three approaches were negligible, no matter how the data was analysed. The three approaches were indistinguishable on overall outcome at each timepoint, for each therapist, for type of trauma, and by demographics of the participants. Thus, the data of this study strongly support the contention that the primary therapeutic factor in the treatment of PTSD symptoms is imaginal exposure, for it is the only element shared by all three approaches, and it is the only element in the Counting Method.

Given the effect sizes reported by previous studies, the sample was of sufficient size to test the main effect of time (that is, outcome). Given the extremely small effect size of the interaction terms in this study, a sample of several hundred participants would be required to detect differences among the treatment conditions, differences that one could argue would have little clinical significance.

Limitations

The study had a number of limitations, including a restricted sample, including the fact that the participants and therapists were female. Another limitation of this study was that the therapists conducted all three types of treatments, creating the possibility for bias. However, all three therapists were equally effective across all three treatments, and no relationship variables showed any impact on outcome or preference for treatment condition. Another limitation was that all participants were seen in their ongoing standard individual therapy throughout the study. However, this reduces the possibility that the effect of the active conditions was due simply to attention from a therapist, which would be a problem in a no-treatment comparison group design.

Dropout rates for the waitlist group (23%) and the active conditions (27%) were nearly equivalent to those reported in a meta-analysis of exposure studies conducted recently by Hembree et al. (2003). Importantly, no participant dropped out once treatment had commenced. Instead, dropouts appeared to have high levels of anticipatory anxiety regarding revisiting their traumatic memories

This study attempted to reduce potential sources of error through the use of manual-based treatments, therapist adherence and competence measures, waitlist (standard treatment) control group, random assignment to condition and therapist, and use of well-known and standardized PTSD and psychopathology measures. These components have been recommended by experts in the field (Foa, Keane, & Friedman, 2000).

Conclusion

As many previous studies have shown, treatments such as the ones utilized in this study are effective in reducing PTSD symptoms in a relatively short period of time. The data from this study indicate that clinicians could choose any of these approaches, based on their experience, training, or preference. The critical question now, however, is what are the necessary and sufficient therapeutic elements in such treatments? We believe that imaginal exposure may be both necessary and sufficient, and that other therapeutic elements may offer limited contributions. The only other elements needed in a therapeutic procedure are those that allow the dosing of imaginal exposure to be delivered by circumventing or inhibiting the client's avoidant responses. Such techniques as direct encouragement, psychoeducation, counting, eye movements, finger tapping, or suggestion are examples. If further studies show that streamlined methods such as the Counting Method are as effective as more complex and articulated approaches, then our hypothesis will gain support. Applying the rule of parsimony to trauma treatment, designers of treatment interventions would then be encouraged to simplify rather than complicate their methodologies and theoretical propositions.

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