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A Novel Dissemination Effort for Prolonged Exposure: Practice & Dissemination Curriculum

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Abstract

Objectives: This study examines the effectiveness of a novel dissemination and implementation curriculum for prolonged exposure (PE). Pre-doctoral clinical psychology interns completed a sequential, four-part curriculum that culminated in a community-based practicum during which interns conducted a PE workshop. We hypothesized that workshop participants would report more favorable attitudes regarding PE after completing the intern-led workshop than endorsed at the outset of the workshop.

Methods: A total of 53 workshop participants attended and completed questionnaires. The majority of workshop participants had a Masters-level degree or Educational Specialist (Ed.S.) degree ($n = 28$; 57.1%) and were currently a counselor or psychosocial rehabilitation worker ($n = 21$; 42.9%). We examined changes between pre- and post-training time points for five self-report items related to negative attitudes towards PE and three self-report items related to intent to use PE.

Results: There was a significant effect of workshop training on four out of five items related to negative attitudes towards PE. The non-significant result of the fifth item may be due to a ceiling effect given that baseline scores for this item were very positive. There was a significant effect of workshop training on all three items related to intent to use PE.

Conclusions: Results suggested that this sequential four-part curriculum may be an effective way of combining education, training, and dissemination efforts. Future research should examine if similar results can be achieved with a controlled research design and whether outcomes would generalize to actual PE delivery skills in routine clinical care.

Keywords: Prolonged Exposure, Training, Education, Dissemination, PTSD

Clinical Impact Statement

Limited resources for training clinicians may impede the dissemination of effective treatments for Posttraumatic Stress Disorder. We report results from a four-part curriculum model that trains individuals to not only learn Prolonged Exposure (PE) intervention skills, but also dissemination and implementation skills, when learning this treatment. In comparison with other established PE training programs, we were able to attain similar training outcomes with less experienced facilitators, shorter workshop duration, and a more diverse group of participants. Future research should examine if similar results can be achieved with a controlled research design and whether outcomes would generalize to actual clinical skills.

A Novel Dissemination Effort for Prolonged Exposure: Practice & Dissemination Curriculum

Posttraumatic Stress Disorder (PTSD) places a significant burden on the individual as symptoms are often chronic and debilitating (McLean & Foa, 2014). Fortunately, there is ample evidence that Prolonged Exposure (PE) is a low-cost and effective treatment for reducing PTSD symptomatology (Foa, Gillihan, & Bryant, 2013; McLean & Foa, 2014). Although not definitively superior compared to other efficacious treatments for PTSD (Foa et al., 2013), cognitive-behavioral treatments such as PE have a large evidence base that demonstrates its efficacy relative to waiting list and active control conditions (McLean & Foa, 2014). The majority of individuals with PTSD, however, still receive treatments with unknown efficacy. Multiple barriers may prevent the dissemination and implementation of evidence-based treatments; one possible reason may be a lack of resources for clinician training in PE (Foa et al., 2013).

National training initiatives, such as the Veteran Affairs (VA) PE Training program (Ruzek et al., 2016), were designed to address this need. Results demonstrated increased positive patient outcome expectancies and decreased negative patient outcome expectancies after workshop participants completed the workshop (Ruzek et al., 2016). Key training elements included teaching emotional processing theory and application in a highly experiential manner, utilizing role-plays, providing didactic information, and inclusion of video case examples (Ruzek et al., 2016).

The curricula of some graduate, internship, and postdoctoral-level training programs already incorporate the aforementioned components (Foa et al., 2013), but may not adequately prepare trainees to disseminate the approach. In a four-part curriculum model, which has been implemented with motivational interviewing (Schumacher et al., 2014), graduate students or

trainees gain not only intervention skills, but also dissemination and implementation skills, that are applied in a practicum in which they train community providers. The current paper presents preliminary data to determine if applying this curriculum to PE was able to achieve similar training results with (1) less experienced workshop facilitators (2) shorter workshop duration, and (3) a more diverse group of workshop participants. Specifically, pre-doctoral psychology interns conducted a workshop to disseminate PE among community practitioners as part of their dissemination practicum experience. We hypothesized that there would be reductions in negative attitudes towards PE and increased intent to implement PE among workshop participants (i.e., community practitioners) after attending the workshop.

Method

Participants

The PE workshop was conducted for two separate, non-overlapping groups of workshop participants. A total of 53 workshop participants completed questionnaires before and after the PE workshop was conducted. The majority of workshop participants were female ($n = 35$; 74.5%), between 31 to 45 years of age ($n = 19$; 40.4%), and identified White/Caucasian as their race ($n = 37$; 75.5%). Workshop participants were identified and selected by leadership at their substance abuse treatment facilities. In terms of vocation, the majority of workshop participants had a Masters-level degree or Educational Specialist (Ed.S.) degree ($n = 28$; 57.1%) and were currently a counselor or psychosocial rehabilitation worker ($n = 21$; 42.9%). Further details regarding their experience with PTSD and exposure-based treatments are delineated in Table 1.

Procedure

All workshop activities were conducted by clinical psychology interns completing their final year of graduate doctoral training. Over the course of the training year, all interns

participated in the following sequential four-part curriculum: (1) in-depth classroom instruction on PE; (2) an intensive competency-based practicum in PE that continued until a predefined standard of expertise was achieved; (3) in-depth classroom training in the dissemination of evidence-based treatments; and (4) a community practicum during which teams of interns provided a workshop and supervision/consultation at local agencies and facilities under the supervision of faculty members. The workshop consisted of didactic training, demonstration videos, and experiential activities such as role-plays of working with a client to develop a hierarchy (typically done in dyads or small groups). The workshop consisted of eight hours of training and was presented over 1 to 2 days, depending on the availability of participants at local agencies and facilities. The training curriculum was developed by the last two authors (i.e., JAS and SFC) and interns self-selected workshop topics they would present. As part of programmatic evaluation, data were collected from the workshop participants before and after the PE workshop. The Institutional Review Board at University of Mississippi Medical Center designated the project as exempt educational research.

Instruments

Workshop participants completed a number of questionnaires at pre- and post-training time points. Five self-report items were related to negative attitudes towards PE and participants responded to these items with “*True*,” “*False*,” or “*Don’t Know*.” Three other self-report items assessed attitudes related to intent to use PE and participants indicated their level of agreement with these statements on a 10-point Likert-type scale, ranging from 1 (*Definitely Not*) to 10 (*Definitely*). Specific wordings for the aforementioned items are described in the results section.

Results

Negative Attitudes towards PE

Missing data patterns are described in Table 1. A McNemar chi-square test was conducted to investigate attitude change, and the “Don’t Know” and “True” categories were combined to create a category representing negative or equivocal attitudes toward PE. There was a significant effect of workshop training on four out of five items: (1) “PE is rigid and does not allow for adjusting to individual client needs”; (2) “PE is not enough to address trauma symptoms for complex clients often seen in routine clinical practice”; (3) “existing evidence regarding the efficacy of PE does not generalize to clinical settings in the “real world””; and (4) “PE frequently leads to symptom worsening and high dropout rates”. The effect of workshop training on question 5, “PE addresses symptoms, but does not enable a therapist to build a therapeutic alliance,” was not significant. This item was asked for both cohorts of workshop participants at the pre-training time point but only asked for one of the cohorts at the post-training time point; thus, the sample size for this within-group analysis was smaller for this item ($n = 22$; see Table 2). In addition, the majority of respondents who completed the pre- and post-time points for this item ($n = 17$) endorsed “false” at both pre- and post-training time points, suggesting that the majority of participants who completed the assessments at both time points disagreed with this negative attitude prior to training. Table 2 lists descriptive statistics and inferential test results for items 1-8.¹

Intent to use PE

A within-subjects *t*-test was conducted to investigate attitude change on intent to use PE. Multiple imputation was used to handle missing data. Per Bodner (2008), we ran 20 imputations,

¹ To test for cohort differences among workshop participants, we conducted a chi-square test of independence for cohort and a categorical variable that denoted any attitude change across time (attitude improved, attitude worsened, attitude stayed positive, attitude stayed equivocal/negative). Two out of four items (i.e., items 1 and 3) produced significant results ($ps < .05$), such that for both items, one cohort of workshop participants had more positive attitudes that started and stayed positive while the other cohort had more workshop participants that started with negative/equivocal attitudes that became positive, suggesting a ceiling effect for the first cohort. Results of this analysis is available upon request from the corresponding author (EC).

which is slightly higher than the maximum percentage of missing data in any of the imputed variables (17%). Several variables were included as auxiliary predictors in the imputation: training year (2013 or 2014), gender, age, race, current position, highest degree, previous hours of didactics on exposure therapy, and previous hours of supervision in exposure therapy. All of these variables were treated as categorical (including the numeric values because they tended to have severely non-normal distributions with natural cut points). There was a significant increase in attitudes on all of the items (Table 2): (6) “It is important for me to use exposure therapy with patients/clients I treat for PTSD”; (7) “I am confident that I can use exposure therapy with patients/clients I treat for PTSD”; and (8) “I am committed to using exposure therapy with patients/clients I treat for PTSD”.² All significant tests remain significant when limiting the overall false discovery rate to .05 using the Benjamini-Hochberg procedure (Benjamini & Hochberg, 1995).

Discussion

Results suggest that this curriculum was able to produce similar training outcomes as established PE training programs. For example, Ruzek et al. (2016) reported that clinicians who completed a four-day interactive training workshop endorsed increases in self-efficacy in delivering PE and decreases in negative expectations regarding the effects of PE. We found similar training outcomes even though the duration of our workshop was shorter than their workshop and our facilitators were less experienced compared to their PE trainers.

Results also suggest that we were able to attain favorable outcomes even though workshop participants came from diverse educational backgrounds and held differing beliefs

² To test for cohort differences among workshop participants, we conducted a mixed-design ANOVA for cohort (between-subject factor) and pre-post changes (within-subject factor) for each item related to intent to use PE. There were no significant interactions between cohort and pre-post changes ($p > .05$) for any of the three items. Results of these analyses are available upon request from the corresponding author (EC).

regarding PE. In a report of baseline data, Ruzek et al. (2014) reported that the majority of their trainee sample were licensed psychologists (55.8%), held positive views of PE, and had “high levels of confidence” (Ruzek et al., 2014, p. 425) in their ability to deliver PE prior to completing the PE workshop – similar to baseline data reported by Ruzek et al. (2016) for those who went on to complete the PE workshop. In comparison, the majority of our workshop participants were non-psychologists (93.9%) and did not possess doctoral degrees (77.6%). Further, most had ambivalent or endorsed negative attitudes toward PE and were not confident in implementing PE prior to the workshop. Even though most of our workshop participants came from diverse backgrounds, we were still able to obtain favorable training outcomes.

The results of this study are encouraging, but a number of limitations should be noted. Because data were collected from program-evaluation activities, the study design lacked proper controls. Although participants were informed that evaluation results would only be shared with their supervisors in a de-identified, aggregated fashion, they also knew that direct identifiers were present in the questionnaires and the purpose of the evaluation. Thus, improvements in attitudes could have resulted from demand characteristics. Second, a lack of follow-up assessments precluded an examination of whether attitudinal changes regarding PE were maintained after post-training. Third, it is unclear whether training effects generalized to actual PE delivery skills or actual implementation of skills in routine care because measured outcomes were limited to attitudinal measures based on face valid, single-item questionnaires. Fourth, our small sample size ($N = 53$) limits the confidence of our findings (i.e., in that the CIs are wider). Lastly, we did not conduct a dismantling procedure to determine which part of the four-part curriculum might be responsible for the desired training effects.

Overall results suggest that a sequential four-part curriculum that culminates in a psychology intern-led workshop could be an effective way of combining education, training, and dissemination efforts. Future studies, however, should utilize a more comprehensive measurement strategy and controlled research design to address the aforementioned limitations in order to evaluate the mechanism of change and potential impact on actual PE delivery skills in routine clinical care.

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Table 1
Participant Characteristics

Characteristic	<i>n</i> ^a (%)	<i>M</i> (<i>SD</i>)	Median
Age			
18-30	11 (23.4%)		
31-45	19 (40.4%)		
46+	17 (36.2%)		
Race/ethnicity			
White, non-Hispanic	37 (75.5%)		
African-American, non-Hispanic	9 (18.4%)		
White, Hispanic/Latino	1 (2.0%)		
African-American, Hispanic/Latino	1 (2.0%)		
South Asian	1 (2.0%)		
Highest degree			
BA/BS	10 (20.4%)		
Master's/EdS	28 (57.1%)		
PhD/EdD	11 (22.4%)		
Years of experience	44	11.8 (10.1)	10.5
Current position			
Counselor or psychosocial rehabilitation worker	21 (42.9%)		
Graduate student	10 (20.4%)		
Faculty, clinic director, or administrator	7 (14.3%)		
Staff psychologist	3 (6.1%)		
Trauma grant PPW evaluator	1 (2.0%)		
Number of patients with PTSD treated			
None	12 (26.1%)		
1-10	19 (41.3%)		
11-25	5 (10.9%)		
26-50	8 (17.4%)		
51+	2 (4.3%)		
Hours of didactic exposure training	39	15.2 (80.1)	0
None	31 (79.5%)		
2-6	4 (10.3%)		
10-500	4 (10.3%)		
Hours of exposure supervision	36	36.8 (167.8)	0
None	25 (69.4%)		
2-8	5 (13.9%)		
10-30	3 (8.3%)		
100-1,000	3 (8.3%)		

Note. Out of 53 participants, four individuals (7.5%) had some missing pre-training data but had all post-training data; eight individuals (15.1%) had all pre-training data but were missing some post-training data; and one individual (1.9%) did not respond to these questions at pre- or post-training time points.

^aFor continuous variables, *n* represents the number of individuals who provided data. Percentages are valid percent (i.e., excluding missing values). Most continuous variables were non-normally distributed, so proportions of participants in various ranges are also presented.

Table 2
Attitudes toward Prolonged Exposure (PE)

Item	Pre	Post		Significance Test ^a
		True/Don't know	False	
1. PE is rigid and does not allow for adjusting to individual client needs	True/Don't know False	1 0	7 32	$\chi^2(1) = 7.00, p = .016, V = 0.42$
2. PE is not enough to address trauma symptoms for complex clients often seen in routine clinical practice	True/Don't know False	6 1	16 17	$\chi^2(1) = 13.24, p < .001, V = 0.58$
3. Evidence regarding PE efficacy does not generalize to the "real world"	True/Don't know False	2 0	13 25	$\chi^2(1) = 13.00, p < .001, V = 0.57$
4. PE frequently leads to symptom worsening and high dropout rates	True/Don't know False	2 0	17 20	$\chi^2(1) = 18.00, p < .001, V = 0.67$
5. PE addresses symptoms, but does not enable a therapist to build a therapeutic alliance ^b	True/Don't know False	0 1	4 17	$\chi^2(1) = 1.80, p = .375, V = 0.29$

Item	Pre		Post		Significance Test ^c
	<i>n</i> ^a	<i>M (SD)</i>	<i>n</i> ^a	<i>M (SD)</i>	
6. It is important for me to use exposure therapy with patients/clients I treat for PTSD	46	7.4 (1.8)	45	8.4 (1.8)	$t(134) = -2.40, p = .018, d_{av} = 0.46$
7. I am confident that I can use exposure therapy with patients/clients I treat for PTSD	46	5.8 (2.6)	45	7.9 (1.8)	$t(938) = -5.65, p < .001, d_{av} = 0.99$
8. I am committed to using exposure therapy with patients/clients I treat for PTSD	46	6.5 (2.3)	45	8.2 (1.9)	$t(863) = -4.65, p < .001, d_{av} = 0.80$

Note. For categorical variables, numbers in each cell represent the number of individuals who provided a given response for pre- and post-training time points (i.e., missing data were excluded). For continuous variables, *n* represents the number of individuals who provided data at each time point.

^aTo test whether the findings for items 1 through 4 were robust to missing data (i.e., as a sensitivity analysis), we replaced the eight missing post-scores with negative attitudes (True/Don't Know) and the four missing pre-scores with positive attitudes (False), an extremely conservative assumption. For items 3 and 4, results remained significant ($p = .021$ and $p = .001$, respectively), and item 2 approached significance ($p = .052$). However, the effect of time on item 1 was no longer significant ($p = .774$). Because there was no effect of time on item 5, we did not conduct a sensitivity analysis for that item.

^bThis item was asked for both cohorts of workshop participants at the pre-training time points but only asked for one of the cohorts at the post-training time point.

^cFor continuous items six through eight, missing data were multiply imputed before conducting these significance tests.