Foundations
What Works Centre for Children & Families

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Intervention website: N/A

GUIDEBOOK INTERVENTION INFORMATION SHEET

Prolonged Exposure Therapy-Adolescent

Please note that in the 'Intervention summary' table below, 'child age', 'level of need', and 'race and ethnicities' information is **as evaluated in studies**. Information in other fields describes the intervention as **offered/supported by the intervention provider**.

Intervention summary	
Description	Prolonged Exposure Therapy-Adolescent (PE-A) is a targeted indicated intervention for adolescents between the ages of 13 to 18 years old who have experienced trauma. It is intended for adolescents who are exhibiting post-traumatic stress disorder (PTSD) and related symptoms. It is delivered by mental health professionals individually to young people in once to twice weekly sessions of 60 to 90 minutes' duration in eight to 15 sessions.
Evidence rating	3+
Cost rating	N/A
Child outcomes	• Supporting children's mental health and wellbeing - Improved mental health - Reduced depression - Reduced suicidal ideation - Improved social and emotional development - Improved social behaviour. • Preventing crime, violence and antisocial behaviour - Improved behaviour.
Child age (population characteristic)	13 to 18 years old

Intervention summary	
Level of need (population characteristic)	Targeted Indicated
Race and ethnicities (population characteristic)	• African • Black • Hispanic • Mixed racial background • White.
Type (model characteristic)	Individual
Setting (model characteristic)	• Community centre • Out-patient health setting.
Workforce (model characteristic)	The practitioner who delivers this intervention is a licensed mental health professional or those working under the supervision of a licensed mental health professional. Psychology, social work, and nursing staff can implement PE-A in their respective roles.
UK available?	No
UK tested?	No

Model description

Prolonged Exposure Therapy-Adolescent (PE-A) is a targeted-indicated intervention for adolescents (between the ages of 13 to 18 years old) who have experienced trauma.

PE-A is delivered in out-patient health settings and community centres and aims to support children to develop emotional processing skills to reduce the impact of their traumatic experiences, resulting in a decrease in symptoms associated with post-traumatic stress disorder (PTSD) and other trauma-related conditions.

PE-A is a form of cognitive behavioural therapy and was adapted from the widely studied and empirically supported adult treatment protocol. It provides psychoeducation about the effects of trauma and then focuses on helping adolescents to systematically and repeatedly confront trauma-related memories (imaginal exposure) and reminders (in vivo exposure).

It is intended for adolescents who are exhibiting PTSD and related symptoms.

Target population

Age of child	13 to 18 years old
Target population	Adolescents (between the ages of 13 to 18 years old) who have experienced trauma and are exhibiting PTSD and related symptoms.

Please note that the information in this section on target population is as **offered/supported by the intervention provider**.

Theory of change

Why		Who	How	What		
Science-based assumption	**Science-based assumption**	**Science-based assumption**	**Intervention**	**Short-term outcomes**	**Medium-term outcomes**	**Long-term outcomes**
Adolescence is a unique developmental stage that is associated with increased exposure to traumatic events that can lead to PTSD.	Improved emotional processing can diminish the impact of PTSD and other trauma-related symptoms.	Adolescents (between the ages of 13 to 18 years old) who have experienced trauma and are exhibiting PTSD and related symptoms.	PE-A provides psychoeducation about the effects of trauma and focuses on helping adolescents to systematically and repeatedly confront trauma-related memories (imaginal exposure) and reminders (in vivo exposure).	Children have better emotional processing skills.	The impact of children's traumatic experiences reduces.	Children experience a reduction in symptoms associated with PTSD and other trauma-related conditions.

Implementation requirements

Who is eligible?	Adolescents (between the ages of 13 to 18 years old) who have experienced trauma and are exhibiting PTSD and related symptoms.
How is it delivered?	Prolonged Exposure Therapy-Adolescent is delivered in once to twice weekly sessions of 60 to 90 minutes' duration in eight to 15 sessions. It is delivered by mental health professionals individually to young people.
What happens during the intervention?	PE-A aims to improve the participants' ability to emotionally process their traumatic experiences and consequently diminish post-traumatic stress disorder and other trauma-related symptoms. Participants are encouraged to repeatedly approach situations or activities they are avoiding because they remind them of their trauma (in vivo exposure) as well as to revisit the traumatic memory several times through retelling it (imaginal exposure). Psychoeducation about common reactions to trauma as well as breathing retraining exercises are also included in the treatment.
Who can deliver it?	The practitioner who delivers this intervention is a licensed mental health professional or those working under the supervision of a licensed mental health professional. Psychology, social work, and nursing staff can implement PE-A in their respective roles.
What are the training requirements?	The practitioners have four full days of intervention training.
How are practitioners supervised?	N/A
What are the systems for maintaining fidelity?	Intervention fidelity is maintained through the following processes: • Training manual • Video or DVD training • Face-to-face training • Fidelity monitoring.
Is there a licensing requirement?	N/A
***Contact details**	Contact person: Not available Organisation: Not available

	Email address: Not available Website/s: Not available *Please note that this information may not be up to date. In this case, please visit the listed intervention website for up to date contact details.

Evidence summary

Prolonged Exposure Therapy-Adolescent's most rigorous evidence comes from two RCTs which were conducted in the United States and South Africa. The first study is consistent with Foundations' Level 3 evidence strength threshold, and the second is consistent with Foundations' Level 2+ evidence strength threshold.

This intervention has evidence from at least one rigorously conducted RCT along with evidence from an additional comparison group study. Consequently, the intervention receives a 3+ rating overall.

Study 1 observed significant increases in children's loss of a PTSD diagnosis, increased global functioning, decreased externalising symptoms, decreased aggressive behaviour, decreased conduct problems, and decreased suicidal ideation in children in the PE-A group.

Study 2 observed a significant reduction in PTSD symptom severity at 12- and 24-month follow-up and reduction in depressive symptoms at 24-month follow-up in children in the PE-A group.

Prolonged Exposure Therapy-Adolescent can be described as evidence-based: it has evidence from at least one rigorously conducted RCT or QED demonstrating a statistically significant positive impact on at least one child outcome, as well as at least one more RCT or QED.

Search and review

	Number of studies
Identified in search	12
Studies reviewed	12
Meeting the L2+ threshold	1
Meeting the L3 threshold	1
Contributing to the L4 threshold	0
Ineligible	10

Individual study summary: Study 1

Study 1	
Study design	RCT
Country	United States
Sample characteristics	61 girls aged 13 to 18 years old (average age 15.3 years old) who were exhibiting sexual abuse-related PTSD symptoms for at least three months and were seeking treatment at a rape crisis centre
Race, ethnicities, and nationalities	1a, 1c: • 56% were Black • 18% were White • 16% were Hispanic • 7% provided no response • 3% were of mixed racial background. 1b: • 55.7% African American • 27.9% White • 11.5% Hispanic.

Study 1	
Population risk factors	About half of the study sample had one or more than one comorbid psychiatric diagnosis.
Timing	• Baseline • Interim measurement (mid-treatment) • Post-treatment • Three-month post-treatment follow-up • Six-month post-treatment follow-up • 12-month post-treatment follow-up.
Child outcomes	• Reduced PTSD (clinician and youth report) • Reduced child depression (youth report) • Improved child functioning (youth report) • Reduced social problems (youth report) • Reduced child behavioural problems (youth report) • Reduced conduct problems (youth report) • Reduced suicide ideation (youth report).
Other outcomes	None
Study Rating	3
Citation	**Study 1a:** Foa, E. B., McLean, C. M., Capaldi, S. & Rosenfield, D. (2013) Prolonged exposure vs supportive counselling for sexual abuses related PTSD in adolescent girls: A randomized clinical trial. *JAMA*. 310 (24), 2650–2657. **Study 1b:** Zandberg, L., Kaczkurkin, A. N., McLean, C. P., Rescorla, L., Yadin, E. & Foa, E. B. (2016) Treatment of adolescent PTSD: The impact of prolonged exposure versus client-centered therapy on co-occurring emotional and behavioral problems. Journal of Traumatic Stress. 29 (6), 507–514. **Study 1c:** Brown, L. A., Belli, G., Suzuki, N., Capaldi, S. & Foa, E. B. (2020) Reduction in suicidal ideation from prolonged exposure therapy for adolescents. *Journal of Clinical Child & Adolescent Psychology*. 49 (5), 651–659.

Brief summary

Population characteristics

This study involved 61 girls aged 13 to 18 years old (average age 15.3 years old) living in Philadelphia, USA who were exhibiting sexual abuse related PTSD symptoms for at least three months and were seeking treatment at a rape crisis centre. More than half (56%) were Black, 18% were White, 16% were Hispanic, 7% provided no response, and 3% were of mixed racial

background. About half of the study sample had one or more than one comorbid psychiatric diagnosis.

Study design

31 girls were randomly assigned to receive Prolonged Exposure Therapy-Adolescent and 30 to Client Centred Therapy (CCT), a form of 'supportive counselling', using a parallel design and a permuted block procedure with 10 randomisations per block and a 1:1 ratio.

There were no baseline differences between groups on any demographic or psychological variables.

Measurement

Assessments took place at baseline, interim measurement (mid-treatment), post-treatment, and three-, six-, 12-month post-treatment follow-ups. All measures were completed at all timepoints.

- **Child report** measures included Child PTSD Symptom Scale–Self-Report (CPSS-SR), Child Behaviour Checklist Youth Self-Report (CBCL - YSR), Children's Depression Inventory (CDI) and the Beck Depression Inventory (BDI).
- **Clinician report** measures included Child PTSD Symptom Scale-Interview (CPSS-I), the DSM-IV Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS), and Children's Global Assessment Scale (CGAS).

Study retention

Three-month follow-up

88.5% (54) of participants took part in 3-month follow-up assessment, representing 87.1% (27) of PE-A participants and 90% (27) of CCT.

Six-month follow-up

83.6% (51) of participants took part in 6-month follow-up assessment, representing 83.9% (26) of PE-A participants and 83.3% (25) of CCT.

12-month follow-up

90.2% (55) of participants took part in 3-month follow-up assessment, representing 90.3% (28) of PE-A participants and 90% (27) of CCT.

Results

Data-analytic strategy

In Study 1a, piecewise linear mixed models (LMMs) were used to analyse continuous data. Generalised LMM was used to analyse dichotomous outcome of PTSD diagnosis. Age and baseline diagnosis of depression were included as covariates in all analyses.

Study 1b used multilevel modelling to investigate group differences over time.

Study 1c used mixed effects longitudinal models to explore the multiple observations of suicide ideation nested within participants with maximum likelihood estimation. Time was centred at post-treatment and explored as a linear, quadratic, and piecewise effect (Time during treatment and Time in follow-up modelled separately) using Akaike's Information Criterion (AIC) and Bayes Information Criterion (BIC).

Findings

The study identified significant findings on a number of child outcomes. PE-A children were found to have reduced PTSD, depression, suicidal ideation, social problems, conduct problems, and behavioural problems. They were also found to have improved functioning.

Study 1: Outcomes table

Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Child outcomes					
PTSD	CPSS-I (clinician report)	d = 1.01	Yes	61	Post-treatment (1a)
PTSD	CPSS-I (clinician report)	d = 0.81	Yes	61	12 months post-treatment follow-up (1a)
Good responders on PTSD scale	Those who had a score of equal to or more than 8 on the CPSS-I (clinician report)	Not reported	Yes	61	Post-treatment, 12 months post-treatment follow-up (1a)
Lost diagnosis of PTSD	K-SADS (clinician report)	Not reported	Yes	61	Post-treatment, 12-month post-treatment follow-up (1a)
Self-reported PTSD	CPSS-SR (youth report)	Not reported	Yes	61	Post-treatment, 12 months post-treatment follow-up (1a)

Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Child depression	CDI (youth report)	Not reported	Yes	61	Post-treatment, 12 months post-treatment follow-up (1a)
Child global functioning	CGAS (clinician report)	Not reported	Yes	61	Post-treatment, 12 months post-treatment follow-up (1a)
Child anxiety and depression	CBCL – YSR (Youth report)	Not reported	No	61	Change over time from baseline to 12 months post-treatment follow-up (1b)
Child withdrawal and depression	CBCL - YSR (Youth report)	Not reported	No	61	Change over time from baseline to 12 months post-treatment follow-up (1b)
Somatic complaints	CBCL - YSR (Youth report)	d = 0.64	No	61	Change over time from baseline to 12 months post-treatment follow-up (1b)
Social problems	CBCL - YSR (Youth report)	Not reported	Yes	61	Change over time from baseline to 12 months post-treatment follow-up (1b)

Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Thought problems	CBCL - YSR (Youth report)	Not reported	No	61	Change over time from baseline to 12 months post-treatment follow-up (1b)
Attention problems	CBCL - YSR (Youth report)	d=0.51	No	61	Change over time from baseline to 12 months post-treatment follow-up (1b)
Rule breaking behaviours	CBCL – YSR (Youth report)	d=0.63	Yes	61	Change over time from baseline to 12 months post-treatment follow-up (1b)
Aggressive behaviours	CBCL – YSR (Youth report)	d=0.62	Yes	61	Change over time from baseline to 12 months post-treatment follow-up (1b)
Internalizing problems	CBCL – YSR (Youth report)	d=0.47	No	61	Change over time from baseline to 12 months post-treatment follow-up (1b)
Externalizing problems	CBCL – YSR (Youth report)	d=0.70	Yes	61	Change over time from baseline to 12 months post-treatment follow-up (1b)

Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Total problems	CBCL – YSR (Youth report)	d=0.64	Yes	61	Change over time from baseline to 12 months post-treatment follow-up (1b)
DSM Affective problems	CBCL – YSR (Youth report)	d=0.49	No	61	Change over time from baseline to 12 months post-treatment follow-up (1b)
DSM Somatic problems	CBCL – YSR (Youth report)	Not reported	No	61	Change over time from baseline to 12 months post-treatment follow-up (1b)
DSM ADHD	CBCL – YSR (Youth report)	Not reported	No	61	Change over time from baseline to 12 months post-treatment follow-up (1b)
DSM Oppositional defiant disorder	CBCL – YSR (Youth report)	Not reported	No	61	Change over time from baseline to 12 months post-treatment follow-up (1b)
DSM Conduct problems	CBCL – YSR (Youth report)	d=0.78	Yes	61	Change over time from baseline to 12 months post-treatment follow-up (1b)

Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Obsessive-compulsive problems	CBCL – YSR (Youth report)	Not reported	No	61	Change over time from baseline to 12 months post-treatment follow-up (1b)
Posttraumatic stress problems	CBCL – YSR (Youth report)	Not reported	No	61	Change over time from baseline to 12 months post-treatment follow-up (1b)
Positive qualities	CBCL – YSR (Youth report)	Not reported	No	61	Change over time from baseline to 12 months post-treatment follow-up (1b)
Suicidal ideation	BDI (Youth report)	d = 0.52	Yes	61	Change from baseline to Post-treatment (1c)
Suicidal ideation	BDI (Youth report)	d = 0.09	No	61	Change from post-treatment to 12 months post-treatment follow-up (1c)

Individual study summary: Study 2

Study 2	
Study design	RCT
Country	South Africa

Study 2	
Sample characteristics	Sixty-three adolescents (13 to 18 years old) who had witnessed or experienced an interpersonal trauma and were suffering from chronic PTSD for the last three months
Race, ethnicities, and nationalities	• 69.8% Mixed racial background • 30.2% African.
Population risk factors	• The trauma types experienced included sexual assault (49%), physical assault (19%), or witnessing assault (31%) • Around half of the participants had more than one psychiatric diagnosis.
Timing	• Mid-assessment • Post-treatment assessment • Three-month follow-up • Six-month follow-up • 12-month follow-up • 24-month follow-up.
Child outcomes	• Reduced PTSD (clinician and youth report) • Reduced child depression (youth report).
Other outcomes	None
Study Rating	2+
Citation	Rossouw, J., Yadin, E., Alexander, D. & Seedat, S. (2022) Long-term follow-up of a randomised controlled trial of prolonged exposure therapy and supportive counselling for post-traumatic stress disorder in adolescents: A task-shifted intervention. *Psychological Medicine*. 52 (6), 1022–103.

Brief summary

Population characteristics

This study involved 63 participants living in Cape Town, South Africa, aged 13 to 18 years old (average age 15 years old) who were exhibiting PTSD symptoms for longer than three months. The majority (83%) were female. The trauma types experienced included sexual assault (49%), physical assault (19%), or witnessing assault (31%). Around half of the participants had more than one psychiatric diagnosis. 30.2% of the participants were African and 69.8% were of mixed racial background.

Study design

31 participants were randomly assigned to the PE-A group and 32 to an active control condition. The active control condition received 'supportive counselling' (SC).

Measurement

Assessment took place at mid-assessment, post-treatment assessment, and three-, six-, 12-, and 24-month post-treatment follow-ups.

- **Child report** measures included Child PTSD Symptom Scale–Self-Report (CPSS-SR) and the Beck Depression Inventory (BDI).
- **Clinician report** measures included Child PTSD Symptom Scale-Interview (CPSS-I), Mini International Neuropsychiatric Interview for Children and Adolescents (MINI-KID) and Children's Global Assessment Scale (CGAS).

Study retention

Mid assessment

85.7% (54) of participants took part in the mid-assessment data collection, representing 83.9% (26) of PE-A participants and 87.5% (28) of SC.

Post-assessment

82.5% (52) of participants took part in the post-treatment assessment, representing 80.6% (25) of PE-A participants and 84.4% (27) of SC.

Three-month follow-up

84.1% (53) of participants took part in the three-month follow-up assessment, representing 80.6% (25) of PE-A participants and 87.5% (28) of SC.

Six-month follow-up

82.5% (52) of participants took part in the six-month follow-up assessment, representing 87.1% (27) of PE-A participants and 78.1% (25) of SC.

12-month follow-up

84.1% (53) of participants took part in the 12-month follow-up assessment, representing 83.9% (26) of PE-A participants and 84.4% (27) of SC.

24-month follow-up

74.6% (47) of participants took part in the 24-month follow-up assessment, representing 74.2% (23) of PE-A participants and 75.0% (24) of SC.

Results

Data-analytic strategy

Linear mixed models (LMMs) were used to analyse the data, using an intent-to-treat approach.

Findings

The study identified significant child outcomes for the intervention; PE-A participants were found to have reduced PTSD symptoms compared to active control participants at both 12 and 24 months post-treatment, and reduced depression symptoms compared to control at 24 months post-treatment.

Limitations

The conclusions that can be drawn from this study are limited by methodological issues pertaining to a lack of clarity around whether the treatment and control group have continued to be equivalent on baseline characteristics after attrition, hence why a higher rating is not achieved.

Study 2: Outcomes table

Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Child outcomes					
PTSD	CPSS-I (Clinician report)	g = 0.88	Yes	63	12-month follow-up
PTSD	CPSS-I (Clinician report)	g = 0.68	Yes	63	24-month follow-up
Good responders on PTSD scale	Those who had a score of equal to or more than 8 on the CPSS-I (Clinician report)	Not reported	Yes	63	12-month follow-up
Good responders on PTSD scale	Those who had a score of equal to or more than 8 on the CPSS-I (Clinician report)	Not reported	No	63	24-month follow-up

Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Self-reported PTSD	CPSS-SR (Youth report)	g = 0.79	Yes	63	12-month follow-up
Self-reported PTSD	CPSS-SR (Youth report)	g = 0.72	Yes	63	24-month follow-up
Lost diagnosis of PTSD	MINI-KID (Clinician report)	Not reported	Yes	63	12- and 24-month follow-up
Child depression	BDI (Youth report)	g = 0.41	No	63	12-month follow-up
Child depression	BDI (Youth report)	g = 0.59	Yes	63	24-month follow-up
Child global functioning	CGAS (Clinician report)	g = 0.3	No	63	12-month follow-up
Child global functioning	CGAS (Clinician report)	g = 0.19	No	63	24-month follow-up

Other studies

The following studies were identified for this intervention but did not count towards the intervention's overall evidence rating. An intervention receives the same rating as its most robust study or studies.

Aderka, I. M., Foa, E. B., Applebaum, E., Shafran, N. & Gilboa-Schechtman, E. (2011a) Direction of influence between posttraumatic and depressive symptoms during prolonged exposure therapy among children and adolescents. *Journal of Consulting and Clinical Psychology*. 79 (3), 421–425.

Aderka, I. M., Appelbaum-Namdar, E., Shafran, N. & Gilboa-Schechtman, E. (2011b) Sudden gains in prolonged exposure for children and adolescents with posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology*. 79 (4), 441–446.

Capaldi, S., Asnaani, A., Zandberg, L. J., Carpenter, J. K. & Foa, E. B. (2016) Therapeutic alliance during prolonged exposure versus client-centered therapy for adolescent posttraumatic stress disorder. *Journal of Clinical Psychology*. 72 (10), 1026–1036.

Gilboa-Schechtman, E., Foa, E. B., Shafran, N., Aderka, I. M., Powers, M. B., Rachamim, L., Rosenbach, L., Yadin, E. & Apter, A. (2010) Prolonged Exposure versus dynamic therapy for adolescent PTSD: A pilot randomized controlled trial. *Journal of the American Academy of Child & Adolescent Psychiatry*. 49, 1034–1042.

McLean, C. P., Su, Y. J., Carpenter, J. K. & Foa, E. B. (2017) Changes in PTSD and depression during prolonged exposure and client-centered therapy for PTSD in adolescents. *Journal of Clinical Child & Adolescent Psychology*. 46 (4), 500–510.

McLean, C. P., Yeh, R., Rosenfield, D. & Foa, E. B. (2015) Changes in negative cognitions mediate PTSD symptom reductions during client-centered therapy and prolonged exposure for adolescents. *Behaviour Research and Therapy*. 68, 64–69.

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Note on provider involvement: This provider has not agreed to Foundations' terms of reference (or the Early Intervention Foundation's terms of reference), and the assessment has not been conducted and published with the full cooperation of the programme provider. Some or all information on this programme has been obtained from publicly available sources, and so assessments may not include all relevant evidence, and published information may contain inaccuracies on programme details.