

## Journal of Social Signs Review

### Efficacy of Single-Session Brain Working Recursive Therapy for Intrusion as a symptom of PTSD: Assessing Immediate Outcome

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#### Abstract

**Introduction:** This study examined the efficacy of a single-session Brain working recursive therapy (BWRT) in reducing intrusive symptoms in PTSD patients. A sample of 56 individuals (18–65 years) was recruited from Gujranwala medical college teaching hospital and Gujranwala medical complex (GMC). **Materials and methods:** Participants were assessed using the Life events checklist for DSM-5 (LEC-5) - Extended version and the Impact of event scale - Revised (IES-R). A single BWRT session was conducted, with post-testing after one week. **Data analysis** using SPSS 21 included paired-sample and independent t-tests. **Results:** Findings showed a significant reduction in intrusive symptoms ( $p < 0.05$ ) and overall symptom severity, with the mean score decreasing to 22.5, indicating a notable improvement in symptom management and overall psychological well-being. **Discussion and implications:** Males had milder pre-intervention symptoms and showed greater improvement post-BWRT than females. The study supports BWRT as an effective, time-efficient intervention for PTSD-related intrusion, with potential for broader clinical application.

**Keywords:** Intrusive symptoms, PTSD, single session, brain working recursive therapy

## **Introduction**

Brain Working Recursive Therapy (BWRT) is an emerging approach for treating trauma, particularly intrusive symptoms of PTSD. Trauma from natural disasters, conflicts, and personal struggles often leads to distressing thoughts, flashbacks, and emotional turmoil, significantly impacting mental health (Kleber, 2019; Magruder, 2018). BWRT, rooted in neuroscience, helps reprocess maladaptive neural pathways, providing rapid symptom relief and improved emotional regulation.

Pakistan has a high prevalence of trauma-related disorders due to natural disasters, terrorism, and domestic violence (Ali & Shah, 2008; Hussain et al., 2023). However, limited mental health resources create barriers to effective treatment. This study examined the efficacy of single-session BWRT in reducing intrusive PTSD symptoms among young adults from Gujranwala Medical College Teaching Hospital and Gujranwala Medical Complex (GMC). By focusing on an underserved population, this research explored BWRT's potential as a cost-effective, accessible alternative to traditional PTSD treatments.

## **Intrusion Symptoms of PTSD in Pakistan**

Intrusion symptoms, which consist of flashbacks and distressing memories, are common in Pakistan due to natural disasters, terrorism, and domestic violence. Research indicates that 55.2% of women and 33.4% of men exhibited significant PTSD symptoms following the 2005 earthquake (Naeem et al., 2011). Similarly, 59% of individuals in flood relief camps in 2010 displayed intrusive thoughts (Amin et al., 2010). The insufficient mental health resources in Pakistan emphasizes the necessity for effective strategies such as BWRT (Neria et al., 2008). BWRT mitigates PTSD symptoms by targeting initial brain reactions to trauma, averting emotional suffering before memories fully develop (Keith, 2023). It is cost-effective and non-invasive, enhancing the accessibility of therapy (D. J. Bell

et al. , 2020). In contrast to traditional therapies that necessitate reliving trauma, BWRT allows for coping without direct re-exposure (Sheynin and Liberzon, 2017).

### **Single-Session Therapy (SST) and BWRT**

Single-Session Therapy (SST), which includes BWRT, has been shown to be effective for PTSD, anxiety, and behavioral disorders (Bertuzzi et al. , 2021). Meta-analyses indicate that SST reduces psychological problems among youth by 59% (Schleider et al. , 2020). Case studies reveal BWRT's swift effects, yielding significant symptom relief in just one session (Femina Health, 2023).

### **Study Significance**

Single-session BWRT has shown promise in reducing PTSD symptoms like distressing memories, flashbacks, and nightmares, but more research is needed to determine its long-term effectiveness across different populations. Traditional PTSD treatments often require multiple sessions, creating financial and logistical barriers (Watts, 2022). Given the need for accessible and cost-effective therapies, BWRT's ability to rapidly reprocess traumatic memories through neuroplasticity offers significant potential (Ehlers & Clark, 2000). However, further empirical evidence is required to validate its effectiveness. This study aims to bridge this gap by evaluating BWRT's impact on intrusion-related PTSD symptoms, contributing to advancements in trauma treatment.

### **Methodology**

#### **Purpose**

The aim of the study was to evaluate the effectiveness of BWRT in reducing intrusion symptoms in adults, addressing the significant gender difference in BWRT efficacy.

#### **Study Design**

A randomized controlled trial (RCT) was conducted to evaluate Brain Working Recursive Therapy (BWRT) for reducing intrusion symptoms in PTSD. Participants were randomly assigned to either a treatment group (receiving BWRT)

or a control group (no treatment) to ensure comparability and minimize bias. This design provided strong evidence of BWRT's efficacy across diverse populations (Hariton & Locascio, 2018).

### **Sample**

Initial enrollment included 90 adults with PTSD-related intrusion symptoms. The final sample consisted of 56 participants (aged 18-65), meeting DSM-5 diagnostic criteria. This sample size ensured methodological rigor and statistical power (Stavland et al. , 2021). Participants had experienced a traumatic event and met DSM-5 criteria for PTSD (full or subthreshold). Symptoms persisted for over a week with noticeable functional impairment. Participants with severe suicidal ideation, bipolar disorder, active psychosis, severe substance dependence, or those undergoing concurrent psychotherapy were excluded from the research. Participants who withdrew were also excluded.

### **Measures**

**The Life Events Checklist for DSM-5 (LEC-5):** The Life Events Checklist for DSM-5 (LEC-5) – Extended Version is a self-report tool designed to help identify potentially traumatic experiences. It includes 17 items that assess different types of trauma, such as natural disasters, physical assaults, and combat exposure (Gray et al., 2004). Its main purpose is to screen for events that meet the DSM-5's Criterion A for trauma, making it useful in both clinical and research settings. While it doesn't have specific subscales, it covers a wide range of traumatic experiences to help assess the risk of PTSD and other trauma-related conditions. The LEC-5 has been shown to be reliable, with strong test-retest reliability ( $r = .82$ ) and moderate inter-rater reliability ( $\kappa = .61$ ). It also aligns well with other PTSD measures, like the PTSD Checklist for DSM-5 (PCL-5), reinforcing its validity as an effective screening tool (Gray, 2004).

**The Impact of Event Scale – Revised (IES-R):** The Impact of Event Scale – Revised (IES-R) is a self-administered questionnaire designed to measure the level of

distress an individual experiences after undergoing a traumatic event. It evaluates the emotional and psychological effects of trauma, concentrating on various symptom clusters (Beck et al. , 2008). In our research, the primary emphasis is on the intrusion subscale, which assesses the frequency of unwanted thoughts, images, or dreams related to the traumatic experience. The IES-R, particularly the intrusion subscale, has demonstrated high reliability, exhibiting robust internal consistency (Cronbach's  $\alpha > .90$ ) and satisfactory construct validity. This establishes it as a valuable instrument for comprehending how trauma influences individuals, especially regarding intrusive symptoms.

### **Procedure**

The procedure for this study began with the researcher completing BWRT certification to ensure a standardized intervention. Data collection was conducted at Gujranwala Medical College Teaching Hospital and Gujranwala Medical Complex (GMC). Participant screening and pre-testing followed, with 56 individuals selected after thorough screening. Baseline PTSD symptoms were assessed using the Life Events Checklist for DSM-5 (LEC-5), and intrusive symptoms were measured by the Impact of Event Scale-Revised (IES-R).

Participants then received a single session of BWRT, focusing on reprocessing intrusive memories. One week after the intervention, post-testing was conducted using the same assessment scales to evaluate the short-term effects of BWRT on intrusion symptoms.

### **Results**

The Life Events Checklist for DSM-5 (LEC-5) - Extended Version was used in this study as a self-report measure to identify whether participants had experienced traumatic events in their lives. This scale helps in determining exposure to various potentially traumatic events and plays a crucial role in assessing whether a patient has faced significant trauma. By documenting the nature and extent of these events, the LEC-5 provides valuable context for understanding the psychological

challenges faced by individuals. Intrusion symptoms, one of the core responses to trauma, are characterized by recurring, involuntary, and distressing memories, thoughts, or flashbacks of the traumatic event, which disrupt daily functioning and emotional well-being. Identifying trauma exposure through the LEC-5 allows clinicians to better understand and address these symptoms effectively.

**Table 1:** *Demographic Characteristics of the Participants(N=56)*

Variables	N	%
Group		
Experimental	28	50.0
Control	28	50.0
Age n (%)		
18-25	27	48.2
25-above	29	51.8
Gender		
Male	28	50.0
Female	28	50.0

Table 1 represents the demographic characteristics of the sample. The table shows the number of participants(n) in both groups on the basis of their age and gender.

**Table 2:** *Psychometric properties of all study variables*

Scales	M	SD	R	K	Cronbach's $\alpha$
IES-R	23.59	4.07	14-32	8	.67

Intrusion Disorder was assessed using IES-R scales. Table 3 presents descriptive statistics, including mean, standard deviation, range, number of items, and alpha reliability coefficients for each scale. The internal consistency ( $\alpha$ ) was .67 for IES-R indicating acceptable reliability. The table highlights key psychometric properties of the scales used to measure intrusion symptoms and anger reactions in the study.

Table 3: *Mean, standard deviation and t-test statistics of study variables (N=12)*

Measures	<i>Pre-test</i>		<i>Post-test</i>		<i>t</i> (27)	<i>p</i>	<i>Cohen's d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
IES-R							
Experimental	23.85	4.66	8.25	6.30	16.28	.00	2.70
Control	23.71	3.77	23.57	3.44	-.17	.86	0.03

The paired sample t-test revealed that BWRT significantly reduced intrusion symptoms in the experimental group, with pretest scores ( $M = 23.85$ ,  $SD = 4.66$ ) dropping to posttest scores ( $M = 8.25$ ,  $SD = 6.30$ ),  $t(27) = 16.28$ ,  $p < .000$ , and a large effect size (Cohen's  $d = 2.70$ ). In contrast, the control group showed no significant change, with pretest ( $M = 23.71$ ,  $SD = 3.77$ ) and posttest ( $M = 23.57$ ,  $SD = 3.44$ ),  $t(27) = -0.17$ ,  $p = .86$ , Cohen's  $d = 0.03$ . These results confirm BWRT's effectiveness in reducing intrusion symptoms compared to no intervention.

Table 4: *Mean and standard deviation of study variables based on gender before administering BWRT*

	<i>Male</i>		<i>Female</i>		<i>t</i> (26)	<i>p</i>	<i>Cohen's d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
IES-R							
Control	22.92	3.93	24.50	3.58	-1.10	0.28	-0.42
Experimental	23.78	3.86	23.92	5.49	-0.08	9.37	-0.02

Table 4 shows that females had higher pretreatment levels of intrusion symptoms compared to males. For the IES-R, males in the control group scored lower ( $M = 22.92$ ,  $SD = 3.93$ ) than females ( $M = 24.50$ ,  $SD = 3.58$ ),  $t(26) = -1.10$ ,  $p = 0.28$ , Cohen's  $d = -0.42$ . Similarly, in the experimental group, males scored slightly lower ( $M = 23.78$ ,  $SD = 3.86$ ) than females ( $M = 23.92$ ,  $SD = 5.49$ ),  $t(26) = -0.08$ ,  $p = 9.37$ , Cohen's  $d = -0.02$ . These results suggest that females exhibited slightly greater symptom severity prior to BWRT therapy.

Table 5: *Mean and standard deviation of study variables based on gender after administering BWRT*

Measures	Male		Female		<i>t</i> (26)	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
IES-R							
Control	22.07	3.29	25.07	2.99	-2.52	0.18	-0.95
Experimental	7.14	6.38	9.35	6.25	-0.92	.363	-0.34

Table 5 highlights the reduction in intrusion symptoms after administering BWRT. In the experimental group, males showed lower post-treatment scores ( $M = 7.14$ ,  $SD = 6.38$ ) compared to females ( $M = 9.35$ ,  $SD = 6.25$ ),  $t(26) = -0.92$ ,  $p = .363$ , Cohen's  $d = -0.34$ . In the control group, males also scored lower ( $M = 22.07$ ,  $SD = 3.29$ ) than females ( $M = 25.07$ ,  $SD = 2.99$ ),  $t(26) = -2.52$ ,  $p = 0.18$ , Cohen's  $d = -0.95$ . These findings indicate that BWRT was more effective in reducing symptoms in males, who had less severe pre-treatment symptoms. Overall, the therapy significantly reduced intrusion symptoms in the experimental group.

## Discussion

This study found that BWRT significantly reduced intrusion symptoms, supporting its effectiveness in trauma treatment (Keith, 2023). Compared to traditional therapies, BWRT's single-session format provides rapid relief, making it a practical option for those with limited access to prolonged treatment (Watts, 2022). These findings align with studies suggesting that BWRT alters maladaptive neural responses, reducing emotional distress linked to PTSD (Brewin, 2001; Ehlers & Clark, 2000).

Gender differences were observed, with males showing greater symptom reduction than females, consistent with research highlighting biological and psychological influences on treatment response (Rose & Chilvers, 2018). However, further research is needed to explore these variations and contributing factors.

Despite promising results, limitations exist. The short follow-up period prevents assessment of long-term efficacy, and the study's single-location focus limits broader applicability. Future studies should include larger, more diverse samples and extended follow-ups to validate findings.

Overall, this study adds to the growing evidence supporting BWRT as a cost-effective and efficient intervention for PTSD-related intrusion symptoms. Further research will help refine its application and integration into mainstream trauma care.

### **Limitations**

The study's focus on a single city limits the generalizability of its findings. Using only a single post-test prevents assessing long-term. Additionally, the LEC-5 identified trauma exposure, it failed to analyze shared trauma patterns, missing insights into collective psychological impacts.

### **Conclusion**

This study aimed to address the BWRT's efficacy in reducing PTSD intrusion symptoms in Pakistani adults. Moreover, addressed the gender difference for the effectiveness of BWRT. The result showed a significant reduction in the intrusion symptoms. Likewise, the treatment also increased psychological wellbeing. As a brief, cost-effective intervention, BWRT shows promise for trauma treatment. This intervention is highly effective, flexible and compatible with all kinds of trauma patients. Moreover, it reduces the symptoms more in males as compared to females. This integration approach can achieve better results as compared to other methods.

### **Implications**

This study highlights BWRT as a fast and effective intervention for reducing PTSD intrusion symptoms. Its single-session format makes it a cost-effective alternative to traditional therapies, with promising clinical applications. Gender differences suggest the need for personalized treatment approaches. However, further

research is needed to assess its long-term effectiveness and broader applicability. Future research should address these gaps by expanding the sample size, incorporating longitudinal assessments, and examining common trauma responses.

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