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RESEARCH ARTICLE
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INTEGRATING EMDR THERAPY WITH TREATMENT AS USUAL FOR BORDERLINE PERSONALITY DISORDER PATIENTS WITH UNDERLYING CHILDHOOD TRAUMA (AN INTERRUPTED TIME SERIES STUDY)

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Abstract

Objective: To study the integration of Eye Movement Desensitization and Reprocessing (EMDR) therapy with Treatment as Usual for patients with Borderline Personality Disorder and underlying childhood trauma.

Background: EMDR therapy aims to reduce distress by targeting non-processed memories using bilateral stimulation. Development and maintenance of borderline personality disorder has been studied to have a strong link with childhood trauma and studies show that treating childhood trauma can improve the outcome of borderline personality disorder.

Methods: An interrupted time series design was used with 21 participants aged 18–50. Participants received 12 weekly EMDR sessions alongside TAU. Symptom severity and functionality were assessed at baseline, mid-treatment, post-treatment, and follow-ups using the BSL-23 and GAF scales.

Results: EMDR significantly reduced symptom severity and improved quality of life. After TAU, participants showed slight improvement but still scored high on the BSL-23 severity scale. By mid-treatment, 47% shifted from high to moderate severity, while post-intervention, 38% reported mild

symptoms, and 62% moderate severity. At 3- and 6-month follow-ups, benefits were sustained without relapses, with two-thirds achieving mild severity and global functioning improving to over 80%. Female participants showed greater improvements than males.
Conclusion: The findings demonstrate EMDR's efficacy as an adjunct to TAU for treating BPD with underlying trauma. The therapy improves overall functioning and life quality. Further research with larger and more diverse samples and RCT to compare with DBT is recommended to validate these outcomes and explore long-term effects.

Keywords: EMDR, Childhood Trauma, Borderline personality disorder, Abuse, PTSD

Integrating EMDR Therapy with Treatment as Usual for Borderline Personality Disorder Patients with Underlying Childhood Trauma (an interrupted time series study)
Objective: To study the integration of Eye Movement Desensitization and Reprocessing (EMDR) therapy with Treatment as Usual for patients with borderline personality disorder and underlying childhood trauma.

Introduction:
Eye movement desensitization reprocessing (EMDR) therapy is a specialized therapy first invented for stress disorders by Francine Shapiro (Shapiro, 2001). Gradually, EMDR has proved to be effective for different disorders such as post-traumatic stress disorder (PTSD), Depressive disorder, anxiety disorders, and Phobias, and eventually, some studies suggest EMDR for at-risk mental states and Psychosis, studies also suggest that EMDR can be a good add on therapy and efficacy have been shown in patients with psychiatric co-morbidities and traumatic events (Alicia Valiente-Gómez, 2017).
EMDR Therapy is conducted under eight phases; working through bilateral stimulation, after several meta-analyses and studies EMDR was declared to be the therapy of choice for PTSD but not limited to PTSD in 2013 by the World Health Organization. Currently, EMDR is being proven to be used for psychiatric disorders beyond PTSD (Alicia Valiente-Gómez, 2017). EMDR therapy mimics the innate mechanism of slow wave sleep and rapid eye movement sleep in processing the traumatic memories.
A borderline personality disorder is one of the types of personality disorders falling under cluster B, characterized by intense emotional Instability, which leads to impulsivity, and unstable relationships, they also possess chronic feelings of emptiness, self-image disturbances, quarrelsome, anger, violence, and self-harm. (Paul Harrison, 2018).
There have been a lot of theories discussed regarding the development of borderline including genetic involvements, environmental and psychological factors, temperament issues, and Childhood traumas at the top of the list (Stone, 2022). There are multiple studies suggesting that both biological vulnerabilities and psychosocial factors, particularly childhood adverse events, and traumas, contribute to the development of borderline personality disorder, as one of the theories suggests that unexpressed or intolerant to the expression of childhood emotions are factors that contribute to the instability of the emotions in borderline personality disorder (Nadia Cattane, 2017).
Another study conducted back in 2005 suggests that among 600 participants with any personality disorders and depressive disorder without personality disorder, most of the participants reported childhood abuse and maltreatment, among which 72% reported childhood abuse.
A study conducted on 39 patients with borderline personality disorder with childhood trauma, showed an impressive improvement in the overall health of patients and the severity of borderline personality disorder (Sven Cornelisse, 2021).
Another study shows the evidence of treating complex PTSD in patients with a borderline personality disorder by combining DBT with prolonged exposure has not only a good recovery rate for PTSD but also improvement seen in borderline symptoms and suicide rate reduction in patients with severe childhood trauma (Lois W. Choi-Kain, 2021).

There is a clear relation between childhood trauma and borderline personality disorder. Multiple studies support that treating childhood trauma through different interventions has been proven to be effective for a better outcome in borderline personality disorder symptoms, this study is conducted to see the effectiveness of trauma-specific psychotherapy; eye movement desensitization reprocessing therapy (EMDR) in patients of borderline personality disorder with childhood trauma (including physical, emotional, and sexual abuse-related trauma).

Methodology:

1. Study Design: Experimental study with Interrupted time Series design

The setting of the Study: Balochistan Institute of Psychiatry and Behavioral Sciences (BIPBS), and private clinics

Duration of Study: The study was conducted in 12 months from September 2023 to September 2024,

2. Participant Recruitment:

Inclusion Criteria:

- Diagnosis of BPD Using ICD-10 Criteria
- Documented history of childhood trauma (verified through clinical interviews and application of childhood trauma questionnaire short-form).
- Aged 18–50 years.

Exclusion Criteria:

- Current psychotic disorder
- Borderline personality disorder without childhood trauma
- Unstable medical or psychiatric conditions requiring immediate intervention.
- Refusal to consent

We opted for an interrupted time series for this study, 28 participants were recruited from the Balochistan Institute of Psychiatry and Behavioural Sciences and Nusrat Riaz Hospital. The participants were recruited from both in and outpatient settings fulfilling the diagnostic criteria of borderline personality disorder according to ICD-10, and they were assessed for childhood trauma through the Childhood Trauma Questionnaire short-form (CTQ-SF), the study was explained, and informed consent was taken, among which 7 participants dropped out in different time points (out of which 4 patients were negative while screening for childhood trauma and 3 refused to participate). After informed consent, an initial baseline assessment of participants was done through Borderline Symptoms List 23 (BSL-23), Childhood Trauma Questionnaire short form (CTQ-SF), and global assessment of Functionality (GAF) those scoring an average of 1.9 or more on BSL-23, 12 or more at any section of the CTQ-SF and 45 or below on GAF were eligible and were enrolled.

3. Intervention and Data Collection:

EMDR therapy was introduced as an adjunct to TAU, delivered in twelve weekly sessions. Data were collected on weekly sessions in the form of EMDR, progress, and per EMDR protocol, while assessments were done as interrupted time series. TAU consisted of Psycho-education, anger management, and coping enhancement, but not Dialectical Behavioural (DBT) therapy and psychiatric consultations. EMDR sessions were conducted by certified therapists, following standard EMDR therapy protocol. Initially, baseline assessment was done through Borderline Symptoms list-23 for the severity of Borderline severity and Global Assessment of functioning to measure overall functionality and quality of life of the participants before any intervention; participants were kept on TAU for 3 months consisting of Psychiatric Consultation including symptomatic treatment and available psychotherapies including anger management, psychoeducation, and coping enhancement. All the participants who were serving as controls too were assessed at 3 months after TAU through BSL-23 for the severity of borderline personality disorder severity and through Global Assessment of Functioning for the overall quality of Life. Participants were then given the intervention along with

TAU under 12 sessions, including all eight 8 phases of EMDR by an EMDR therapist for the resolution of Childhood traumas, which included physical neglect and emotional, physical, and Sexual abuse during each session. Participants were assessed for their Subjective Unit of Distress (SUD) as per the EMDR Protocol. At the same time, they were evaluated for the severity of borderline personality disorder symptoms and overall quality of life at the 6th week of intervention and the 12th week of intervention after completion of all 8 phases of therapy and evaluation period. All the participants were assessed on 3 months and 6 months follow-up for therapy's long-term efficacy.

4. Assessment Timeline and ITS Design Considerations:

- **Baseline assessment**: Before any intervention, using **Borderline Symptoms List-23 (BSL-23), Global Assessment of Functioning (GAF), and CTQ-SF**.
- **Pre-Intervention Phase** (3 months on TAU):
  - Assessments at **Week 0, Week 6, and Week 12**.
- **Intervention Phase** (12 weeks of EMDR + TAU):
  - Assessments at **Week 6 and Week 12 of EMDR**.
  - Subjective Unit of Distress (SUD) was recorded per session as per the EMDR protocol.
- **Follow-up Phase** (Long-Term Efficacy):
- Assessments at **3 months and 6 months post-intervention**

5. Data Analysis

Segmented regression analysis was used to evaluate changes in outcome measures. Changes in the level (immediate impact) and slope (rate of change over time) pre- and post-intervention were assessed.

6. Ethical considerations

Full ethical approval was obtained from the ethics committee of the Balochistan Institute of Psychiatry and Behavioural Sciences.

7. Data protection and confidentiality

Unique identification (ID) numbers were assigned to all trial participants and identifying information was only accessible to the authorized researchers. Paper copies of assessment tools were all stored in locked filing cabinets. All anonymized data is stored in an encrypted and password-protected Excel database. The quantitative data from the trial will be stored for a further 6 months in soft. Following the Balochistan Institute of Psychiatry and Behavioural Sciences Policy.

Results:

As per demographic information of 21 participants in this study, 33.33% male and 66.66% female participants were recruited with a mean age of 27.95 years at the time of recruitment and a mean age of 18.33 years at the time of developing apparent symptoms of borderline personality disorder with a mean age 9.7 experiencing childhood trauma varying from 6 years of age up to 13 years old. 61% of the participants were married, 23% were not formally educated and the rest of the participants were educated at least up to matriculation. The recruited participants were diagnosed with borderline personality disorder according to ICD-10 criteria, the presence of childhood trauma was confirmed through the administration of the Childhood Trauma Questionnaire short form (CTQ_SF) where 33.33% of the participants confirmed physical neglect; 42.85% fell in moderate (scoring 12 or below) level of physical neglect, 57.14 falling in severe (scoring 13 or above) level of neglect, 33.33% met the criteria for emotional Abuse all falling in sever level of abuse (scoring 18 and above), 33.33% of the participants were falling at sever level of physical abuse scoring 15 and above, 47.61% of participants confirmed being abused sexually and were falling at sever level of abuse scoring above 17 on CTQ-SF, among the participants 33.33% were scoring for more than one type of abuse. The severity of their symptoms was assessed through BSL-23 where 14.2% of the participants scored a

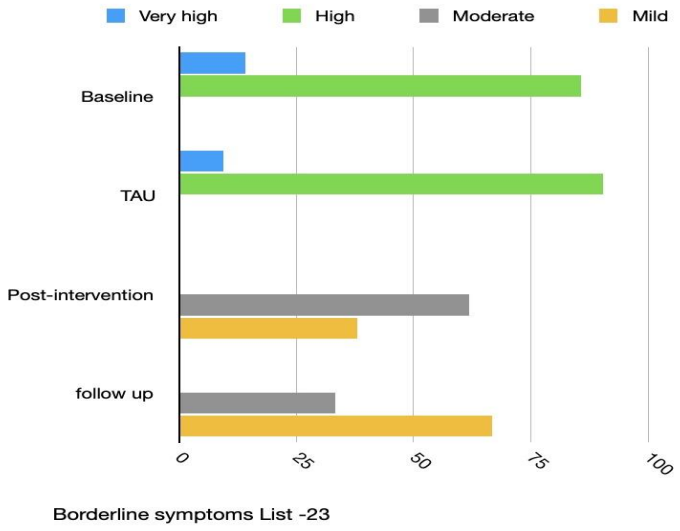
high level of symptom severity while 85.71% scored at a very high level of symptom severity at baseline with a mean of 17% overall quality of personal state in the last week, participants were assessed for their overall quality of life through global assessment of functioning (GAF) where 33.33% of participants scored to serious impairment in the functioning of different domains scoring between (41 to 50), 57.14% of the participants scored a further severe malfunctioning of being unable to work, negligence towards family and having no friends scoring between (31 to 40), 9.52% of them reported to be restricted to home and bed scoring between (21 to 30).

All the participants were assessed 3 months after treatment as usual (which included standard psychiatric consultation, symptomatic pharmacological treatment, and generally available psychotherapies). Participants had slight improvement over BSL-23 in the severity of symptoms, with a greater percentage of Participants around 90.47% shifting from very high to high scoring, with a mean of below 2.7, over BSL-23, while only 9.52% were scoring very high in comparison with a baseline of 85% scoring as very high.

Participants were delivered 12 sessions of EMDR therapy under 8 phases as per EMDR protocol, along with a record of decrease in a subjective unit of distress (SUD), increase in validity of cognition (VOC) as per standard therapy, participants maintained improvement in the severity of borderline personality Symptoms over BSL-23 too at 6th week of intervention, maintaining a shift in 47.61% of participants from high to moderate, though there was a slight improvement in the average score of ret of the participants individually but 47.61% remained to score as high and 4.6% scored as very high with slight improvement at the end of 6th session of EMDR as an adjunct to TAU.

Participants were assessed at the 12th week of intervention after completion of EMDR therapy through BSL-23 where 38.09% of participants showed a huge shift in the severity of symptoms to mild scoring a mean score of below 1.1 while the remaining 61.90% had a good improvement over the scale individually but still falling in moderate level all scoring below 1.9 over BSL-23 with none of the participants remaining in the high or very high category, their overall quality of life and status was assessed through GAF, where 14% of participants scored above 90%. The remaining 85.71% scored between 80 to 90% of improvement regarding their overall status and quality of functioning.

Participants were assessed at 3 months, and 6 months follow-up post-intervention to assess the long-term effectiveness of integrating EMDR therapy for borderline personality disorder where 66.66% of them had an improvement of scoring less than average of 1.1 and falling in the mild category while 33.33% were maintaining falling in moderate category there were no relapse among the participants. The overall response rate was better among females than males, the post-intervention interviews of patients revealed better tolerability and efficacy among patients.



Conclusion:

This study demonstrates that integrating Eye Movement Desensitization and Reprocessing (EMDR) therapy with Treatment as Usual (TAU) significantly enhances symptom management and quality of life in patients with borderline personality disorder (BPD) with an underlying history of childhood trauma. The findings reveal sustained improvements in symptom severity, emotional functioning, and overall life quality over time, with no relapses observed during follow-ups. EMDR was particularly effective in reducing distress linked to traumatic experiences and improving adaptive functioning.

The results highlight EMDR therapy's viability as an adjunct intervention for BPD, particularly in addressing underlying trauma. Women in this study responded more favorably than men, suggesting possible gender-based differences in therapeutic outcomes that warrant further exploration.

Given the small sample size and single region focus, future research should aim to replicate these findings in larger, more diverse populations. Such studies should also consider long-term evaluations and Randomized controlled trials comparing EMDR with Dialectical Behavioural (DBT) Therapy to solidify the evidence for EMDR's role in treating BPD with co-occurring childhood trauma.

This research underscores the importance of trauma-focused approaches in psychiatric care and encourages incorporating evidence-based therapies like EMDR into routine clinical practice for complex personality disorders.

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