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THE ROLE OF EMOTIONAL REGULATION SKILLS TRAINING IN ENHANCING GLOBAL ASSESSMENT OF FUNCTIONING IN INDIVIDUAL SUFFERING WITH CONVERSION DISORDER

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Abstract
This study aimed to evaluate the effectiveness of Emotional Regulation skills training, specifically Dialectical Behavior Therapy (DBT), in treating Conversion Disorder (CD). A true experimental design incorporating both between- and within-subject elements was employed. Twenty-four individuals diagnosed with CD were divided into two groups: the DBT group (n=12), which received emotion regulation skills training, and the Treatment as Usual (TAU) group (n=12), which received only pharmacological treatment. Emotional regulation was assessed using the Difficulty in Emotional Regulation Scale (DERS; Gratz & Roemer, 2004), and the severity of conversion symptoms was measured using the Global Assessment of Functioning (GAF; Luborsky, 1987). Results showed significant improvement in the conversion symptoms of the experimental group, who also demonstrated better emotional control and effectively managed risky emotions. These findings suggest that incorporating DBT skills training into the treatment plan for Conversion Disorder can be highly effective.

Key words: Emotional regulation, conversion disorder, global assessment functioning.

INTRODUCTION

Emotions play a vital role in our lives, yet there is limited understanding of how to harness them effectively in our interactions with others. Research indicates that strong emotional reactions in certain individuals can damage relationships. By recognizing and validating our emotional reactions, rather than allowing unresolved bitterness, hostility, annoyance, hopelessness, and disappointment to consume us, we can enhance our relationships. "Emotion regulation skills" (ER), a technique from dialectical behavior therapy (DBT), help individuals recognize and control their emotions, improving satisfaction in interpersonal relationships. This technique reduces harmful

beliefs, impulsive behavior, volatile emotions, and interpersonal conflict through proper acceptance and acknowledgment of feelings, transforming negative emotions into healthy ones.

Applying emotional management techniques to conversion disorder (CD) is warranted, as many CD patients experience intense emotional reactions in challenging situations. CD presents a significant challenge for mental health professionals, lacking a standardized psychotherapy approach that yields positive results. Despite normal brain and organic functioning in laboratory tests, CD manifests with physical symptoms. Accurate diagnosis requires a thorough mental history, onset of symptoms, identifiable stressors, early experiences, personality traits, and understanding the benefits and underlying causes of CD.

Various theoretical perspectives explain the development of CD differently. The biological approach attributes CD to neurological factors, often referring to it as a "functional neurological disorder" (Stone et al., 2011). Some research suggests that brain malfunctioning or excessive activation of inhibitory brain processes may account for sensory abnormalities in CD patients (Fink et al., 2006). Alternatively, psychoanalysis points to unresolved sexual desires, childhood memories, or trauma as causes of CD (Breuer & Freud, 1895). The behavioral approach suggests that CD may be learned in childhood by observing a family member with similar symptoms. Rational Choice Theory (RCTN) posits that repression is a conscious choice to distract attention, with experimental studies supporting this claim (Holmes, 1974, 1990).

DBT, initially designed for borderline personality disorder (BPD), has shown positive outcomes (Linehan, 1993). BPD and CD share common features, such as difficulty expressing emotions and experiencing intense emotional reactions. Despite this overlap, literature does not indicate widespread use of DBT strategies in treating CD. Both disorders often coexist, with CD symptoms arising from psychological conflicts and emotional issues. The key distinction between CD and BPD is the presence of neurological symptoms in CD without medical evidence.

Given the success of DBT in treating various psychological disorders, this study aims to extend its application to Conversion Disorder (CD). Emotional regulation skills, a core component of DBT, have been effectively used to treat mood disorders, addiction, eating disorders, and self-injury (Linehan, 1999; Dimeff, 2007; Telch, 2001; Chapman, 2006). This study seeks to alleviate CD symptoms by enhancing strategies to face adversity without manifesting physical symptoms. Identifying and managing emotions is crucial. Emotion regulation skills training enables individuals to handle painful emotions productively (Dodge, 1989; Linehan, 1993b). Practicing these skills helps individuals manage their emotions, thereby reducing pain and preventing the negative consequences of destructive coping strategies. Although we may not control our emotions, we can modify our reactions to external triggers. Emotional regulation skills teach control over emotions and behaviors by understanding emotions, overcoming obstacles to productive emotions, limiting physical harm, reducing unhealthy cognitive patterns, increasing pleasant feelings, observing emotions without immersion, openly experiencing emotions, and employing solution-focused methods.

In summary, this study aims to apply emotional regulation skills to CD, addressing a gap in treatment. CD, a common disorder lacking an effective treatment plan, could benefit from DBT's proven effectiveness in other psychological disorders. Emotional regulation skills offer a potential solution for CD, providing a more lasting and cost-effective treatment by addressing the root causes rather than masking symptoms with medication or electroconvulsive therapy. This study aims to help individuals with CD master emotion handling and anger tolerance, offering a more sustainable approach to treatment.

Objectives

To design emotional regulation skill training as a treatment plan for individuals suffering with conversion disorder

Hypotheses

1. Scores of experimental group will improve on emotional regulation after therapy as compared to treatment as usual group (TAU).
2. Emotional regulation skills training will significantly enhance the global functioning of individuals suffering with conversion disorder as compared to TAU group.

Methodology

Research design

This study employed an intervention-based approach, utilizing a single-factor true experimental design that incorporated both between-subjects and within-subjects elements. The between-subjects component compared two experimental conditions: experimental 1 versus experimental 2. The within-subjects design involved a pre- and post-measure comparison within the experimental 1 condition.

Sample

The sample comprised 24 participants diagnosed with conversion disorder, selected based on the DSM-5 criteria. Participants seeking treatment at the Psychiatry Unit of Hayatabad Medical Complex (HMC) and Lady Reading Hospital (LRH) were chosen through purposive sampling. The sample was divided into two groups: 12 participants for Dialectical Behavior Therapy (DBT) and 12 participants for Treatment As Usual (TAU). Random assignment was used to place participants into experimental and control groups. The sample included 2 males and 22 females, with an inclusion criterion of individuals aged 18 and above with at least an intermediate level of education. The sample comprised 13 single and 11 married individuals, including 12 students and 12 housewives. Participants with conversion disorder accompanied by psychotic disorders or other neurological disorders were excluded.

Instruments

DSM 5 criteria for Conversion Disorder

For diagnosing conversion disorder, DSM-5 (American Psychiatric Association, ?) state that the following characteristics must be present: 1) reporting motor or sensory changes without biological evidence; the deficit is not accounted for other psychological or medical disorders; and the symptom produces clinically significant distress in crucial aspects of life.

Difficulty in Emotional Regulation Scale (DERS; Gratz & Roemer, 2004). The DERS consisting of 36 Likert-type items (1 = almost never to 4 = most of the time), measures emotional regulation problems. It has strong reliability (alpha = .93) and is associated with psychological issues such as depression and anxiety. Higher scores indicate more emotional regulation difficulties. The study used the total score of all six subscales.

Global Assessment Of Functioning (Luborsky; 1987).

Lubrosky worked on this scale since 1962 which was later revised in 1976 as Global assessment scale. “Global Assessment of Functioning Scale” is a modified version of global assessment scale used to measure the overall intensity of psychiatric problems which is present in DSM III-R and DSM-IV. Mental health professionals use GAF to subjectively assess the social, occupational, and psychological functioning of an individual. It scores on 10 point rating scale with maximum scoring reaching 100 points. The 100 point scale is divided into sections, in each section there are 10 points. Lowest score range from 1-10 which shows extremely severe and deficient functioning. The score in 20s show dangerous symptoms, scoring of 30 manifests serious impairment and the like. On the opposite quantiunum the score of 100 show superior functioning, whereas, scoring in 90s indicate minimal symptoms

Procedure

The study composed of an intervention using one independent variable with two conditions. It was a combination of both between- subject, within-subject design. Different individuals comprised the experimental 1 versus experimental 2 conditions, as well as a pre and post measure of experimental group was also taken. The purposive sample of CD patients who approached the hospitals for treatment were randomly allocated either to the group which received the Emotional regulation skills training (experimental group) or the treatment as usual (TAU) group which served a s a control. A baseline measure of difficulty in emotional regulation and global assessment of functioning scale was taken from all the study participants. Equal numbers of individuals were divided in the two groups (12 participants each). The experimental group received Emotional regulation skills raining to change their coping strategies, by tailoring the sessions according to the need and severity of the problem. Lesser sessions were required for early onset cases as they have good prognosis. The duration of each was 60 minutes that took place twice a week at the hospitals mentioned above. Appointments schedules were developed for the sessions. Number of sessions with experimental group varied whereas, 24 assessment sessions with TAU group were taken as a pre and post assessment. Initially TAU group was referred to the psychiatrist for the prescription of drug but afterwards 12 post assessment sessions were taken to compare the effectiveness of Emotional regulation skills between the interventional versus TAU group. In pre and post comparisons both emotional regulation and Global assessment of functioning scales were applied on both the groups.

The study included an intervention with one independent variable and two conditions, combining both between-subject and within-subject designs. Participants were randomly allocated to the experimental group (emotional regulation skills training) or the TAU control group. Baseline measures of emotional regulation and global functioning were obtained. The experimental group received tailored emotional regulation skills training sessions, varying based on severity and onset of symptoms. Each session lasted 60 minutes and occurred twice weekly. The TAU group received initial drug prescriptions followed by 12 post-assessment sessions. Pre- and post-intervention comparisons using the DERS and GAF scales evaluated the intervention's effectiveness.

Results

Table 1 t-values on pre- test of the experimental and control groups on Global Assessment of Functioning for conversion disorder

	Control		Experiment				
Variables	*M*	*SD*	*M*	*SD*	*t*(23)	*p*	Cohen's *d*
GAF	4.16	.71	4.16	.71	.000	1.00	0.00

Table 1 presents the non-significant difference between the experimental and control groups on the pretest of GAF showing at baseline both the groups were at the same severity level of conversion.

Table 2 t-values showing differences on pre- test and post-test of the experimental group on Global Assessment of Functioning for conversion disorder

	Pre Test (*n* = 12)		Post Test (*n* = 12)				
Variables	*M*	*SD*	*M*	*SD*	*t*(23)	*p*	Cohen's *d*
GAF Conversion Disorder	4.16	.701	7.08	2.01	-7.31	.000	1.94

Table 2 indicates that experimental group showed significant differences before and after the reception of therapy. Experimental group showed improved scores on GAF which means better functioning and lesser score on GAF post treatment. The value of Cohen's d value also shows a large effect size.

Table 3 t-value showing differences between the experimental and control group on pre-test of difficulty in emotional regulation scale

	Control (n = 12)		Experiment (n = 12)				Cohen's d
Variables	*M*	*SD*	*M*	*SD*	*t*(23)	*p*	
Emotional Regulation	116.41	10.49	109.33	10.04	-1.68	.105	0.68

Table 3 presents the non-significant difference between the experimental and control groups on the pretest of emotional regulation scale. This table is presented in support to the posttest effectiveness of DBT for conversion disorder.

Table 4 t-value showing differences between the experimental and control group on post-test of difficulty in emotional regulation scale

	Control (n = 12)		Experiment (n = 12)				Cohen's d
Variables	*M*	*SD*	*M*	*SD*	*t*(23)	*p*	
Emotional Regulation	112.58	9.30	92.16	14.54	-4.09	.119	1.67

Table 4 presents lower mean scores for experimental group post treatment than control group on emotional regulation scale suggesting that the experimental group faced less difficulty in emotional regulation after the treatment. The value of Cohen's d also suggests large effect size.

Discussion

The study involved an intervention with one independent variable across two conditions, combining both between-subject and within-subject designs. Different individuals comprised the experimental 1 versus experimental 2 conditions, and pre- and post-measurements were taken for the experimental group. A purposive sample of CD patients seeking treatment at hospitals was randomly allocated to either the experimental group (Emotional Regulation Skills Training) or the control group (Treatment as Usual, TAU).

Baseline measurements of difficulty in emotional regulation and global assessment of functioning were taken from all participants. Each group consisted of 12 individuals. The experimental group received tailored Emotional Regulation Skills Training sessions, with the number of sessions varying based on the severity and prognosis of the condition. Sessions lasted 60 minutes and occurred twice weekly at the hospitals. Appointment schedules were developed for these sessions.

The TAU group initially received a drug prescription from a psychiatrist, followed by 12 post-assessment sessions to compare the effectiveness of the interventions. Both groups were assessed pre- and post-intervention using the DERS (Difficulties in Emotion Regulation Scale) and GAF (Global Assessment of Functioning) scales.

In summary, the study aimed to evaluate the effectiveness of Emotional Regulation Skills Training compared to standard treatment. Tailored interventions for the experimental group were hypothesized to show significant improvements in emotional regulation and global functioning compared to the TAU group.

The present study evaluated the effectiveness of Emotional Regulation (ER) training as an intervention for treating conversion symptoms. Rooted in Dialectical Behavior Therapy (DBT), this treatment combines cognitive-behavioral techniques with mindfulness strategies. Individuals with conversion symptoms often face complex psychological and emotional conflicts, leading to cognitive errors such as rigidity in thinking, inflexibility, and adherence to maladaptive beliefs, along with confirmation biases. These cognitive distortions are often automatic and unnoticed by patients (Del Río-Casanova et al., 2018).

Research on Cognitive Behavioral Therapy (CBT), particularly for Somatization and Body Dysmorphic Disorders, demonstrates CBT's effectiveness in addressing maladaptive thinking patterns (Menefee et al., 2022). This literature supports the application of Emotion Regulation (ER)

strategies to reduce cognitive susceptibility by helping individuals recognize and challenge disturbing thoughts that exacerbate emotional distress and related behaviors. These interventions target dysfunctional beliefs by restructuring them and exposing individuals to avoided situations while controlling maladaptive behaviors. Furthermore, ER strategies provide opportunities to explore alternative, more balanced thoughts, thereby enhancing mental flexibility and fostering a broader perspective on situations. For instance, the cognitive shift from "I am bad" to "I am good" illustrates how adjusting perspectives can significantly improve problem-solving approaches.

Our first hypothesis posited that there would be a significant difference between pre- and post-assessment scores on the Global Assessment of Functioning (GAF) scale for participants undergoing DBT training. The GAF scale ranges from 0 to 100, with lower scores indicating greater psychological disturbance and higher scores reflecting better overall functioning. As shown in Table 2, a paired sample t-test confirmed our hypothesis, with participants in the DBT group showing significant improvements in GAF scores post-therapy. The result proved our assumption that participants who experienced DBT training in Emotional Regulation and Mindfulness training scored higher on the GAF scale. This suggests a reduction in the intensity, frequency, and duration of conversion symptoms post-therapy.

Before treatment, participants' GAF scores ranged from 41-50, indicating severe symptoms such as suicidal ideation, anger, hostility, and self-harm. These symptoms manifested as motor or sensory conversion symptoms, including limb paralysis and speech difficulties. Post-treatment, GAF scores improved to 70-90, indicating mild and transient stress reactions without significant impairment in academic, social, or occupational functioning. Participants engaged in goal-directed activities and reported overall life satisfaction, demonstrating the effectiveness of DBT in reducing the intensity, frequency, and duration of conversion symptoms. Everyday concerns like study concentration, family disputes, and exam stress were minimal and handled appropriately. While there are no standardized treatment guidelines for conversion disorder, empirical studies have shown Cognitive Behavioral Therapy's (CBT) effectiveness in treating somatoform disorders (Kozlowska et al., 2023). However, CBT guidelines have not been as effective in treating conversion disorder specifically. Goldstein's (2010) research on psychogenic non-epileptic seizures demonstrated significant improvement with CBT, although long-term follow-ups showed slight variations in treatment outcomes. While DBT draws from CBT components and has proven effective in somatoform disorders, its impact on conversion disorder remains an area of exploration.

To understand the improvement in participants' Global Assessment of Functioning (GAF) scores, we referred to our second hypothesis and its results, which anticipated enhanced emotional regulation skills post-treatment as measured by the Difficulty in Emotion Regulation Scale (DERS). The independent t-test results indicated a significant difference in posttest scores, showing improved emotional regulation abilities with a large effect size. Notably, there was no significant difference in pre-test measures between the experimental and Treatment as Usual (TAU) groups, highlighting their initial similarity in emotional regulation difficulties. The treatment spanned 12 weeks, with sessions twice a week for 90 minutes each, focusing on teaching adaptive coping skills to enhance emotional regulation capabilities through modules on Mindfulness, Emotion Regulation, and targeted exercises.

Some patients exhibited excessive emotional control in our study, indicating potential emotional repression. DBT emotional regulation skills were effective in encouraging patients to acknowledge and accept their emotions, discouraging the use of repression as a coping mechanism. This aligns with previous studies showing significant improvements in emotional regulation and self-injurious behaviors among individuals with Borderline Personality Disorder, underscoring the efficacy of emotional regulation in treatment plans. On the other hand, some individuals with conversion disorder displayed maladaptive emotional control characterized by under control, leading to disruptive behaviors. The use of DBT skills, particularly Emotional Regulation (ER) techniques,

proved highly effective in improving daily functioning and managing distressing situations by helping participants recognize, accept, and manage negative emotions. The findings highlight the importance of effective strategies in redirecting attention away from problems towards more productive actions that foster personal growth and mental well-being. The DERS subscale analysis showed improvements in various aspects of emotional regulation, ultimately reducing the intensity and frequency of extreme negative emotions and decreasing the occurrence of conversion fits among participants. Overall, our study demonstrates the efficacy of cognitive theory and ER techniques in addressing significant emotional and behavioral challenges, leading to improvements in conversion symptoms and overall mental well-being.

Conclusion:

In the current study, the Emotional Regulation skills of DBT proved effective in reducing the conversion symptoms of the experimental group. DBT emotion regulation stresses the significance of understanding emotions, highlighting that each emotion serves a purpose. Succumbing to emotional dysregulation and its consequences exacerbates problems, contributing to additional issues such as depression and anxiety. Research (Clyne & Blampied, 2004) demonstrates that emotion regulation training effectively addresses conditions like binge eating, stress, depression, and anxiety. This study underscores the significant benefits of emotion regulation interventions in improving overall well-being. Instead of a victim of our emotions, acknowledging oneself and personal experiences, shifting our focus, employing helpful self-affirmations, reinterpreting our emotions, engaging in effective actions, and evaluating the pros and cons of different behaviors can improve our functioning.

Limitations

1. A small, less diverse sample is the main limitation of the study. To generalize the findings future studies should focus on a more diverse sample.
2. Dealing with conversion patient is difficult due to their demanding behaviors and dependency. A strategic plan was developed to tackle this issue by giving them a separate phone number throughout until termination. Similarly asking them for follow ups was also a difficult thing to achieve.
3. As the scales were in English individuals lesser than intermediate education were not entertained. If translated version of the scale would have been available, we would have included less educated individuals as well.

Suggestions

1. The main limitation of the present study is the application of a single component, i.e., emotion regulation skills training of DBT to conversion, which can be overcome by the future studies through developing a more inclusive DBT treatment for conversion.
2. As the present study applied DBT to conversion only, effectiveness of DBT can also be studied for other psychological disorders.
3. As conversion is commonly seen problem in our hospitals, the results of the present study can be extended by teaching DBT skills to psychologists working in Public and Private Hospitals to provide better assistance to conversion.
4. It is suggested that mental health professional may use such robust art as therapeutic way of healing, curing and promoting growth.

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