International Journal of Human and Society (IJHS)

P-ISSN: 2710-4966	E-ISSN: 2710-4958
Vol. 4. No. 01 (Jan-March) 2024	Page 528-536

The Role Of Distress Tolerance Skills Training In Enhancing Quality Of Life In Conversion Patients: A Feasibility Trail

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Abstract: *This study aimed to assess the efficacy of Distress Tolerance Skills Training (DBT) for individuals diagnosed with Conversion Disorder (CD).*

The experimental group received DBT distress tolerance skills training, while the Treatment-as-usual (TAU) group received only drug therapy. The study utilized a mixed between-subject and within-subject design, comparing experimental conditions 1 and 2, along with pre-and post-measures of experimental condition 1.

The research took place at Hayatabad Medical Complex (HMC) and Lady Reading Hospital (LRH) in Peshawar over a duration of 1.5 years.

Twenty-four undergraduate participants were selected using purposive sampling and randomly assigned to either the Experimental (n=12) or TAU (n=12) group. The Distress Tolerance Scale (DTS; Simons & Gaher, 2005) and Quality of Life scale (QOL; Flanagan, 1970) were administered to both groups before and after the intervention. The study focused on the Distress Tolerance Skills Training module of DBT.

A t-test was conducted to compare the experimental and TAU groups, revealing the effectiveness of DBT distress tolerance skills training in improving Global Assessment of Functioning (GAF) scores in CD compared to TAU. Higher distress tolerance scores were associated with improved Quality of Life (QOL) in CD. Paired sample t-tests showed a significant difference between pre-and post-test scores in the experimental group for DTS and QOL, with participants scoring higher on the post-test measures

Keywords: *Distress tolerance skills, conversion disorder, distress tolerance, quality of life.*

Introduction

Human beings often respond to distressing situations in ways that exacerbate their pain rather than alleviate it (Greenwood et al., 2003; Kerns et al., 1994)[1,2]. The capacity for distress tolerance varies among individuals, referring to the ability to cope with adverse circumstances, discomfort, and unpleasant situations without worsening one's distress (Simons & Gaher, 2005)[3]. This skill promotes acceptance of situations as they are, discouraging the use of defense mechanisms such as converting intrapsychic conflict into physical symptoms. Individuals who lack distress tolerance may resort to escape from reality, exhibiting conversion symptoms due to difficulties in understanding and accepting their emotions, impulsive behavior, and a lack of knowledge about healthy coping mechanisms (Simons & Gaher, 2005)[3].

Distress tolerance has been identified as a factor in various internal states, including negative

emotions and uncomfortable bodily sensations in somatic and personality disorders (Simons & Gaher, 2005; Lynch & Bronner, 2006; Mennin, 2005; Zvolensky & Otto, 2007)[3-6.] It is considered a risk or maintenance factor for psychological disorders such as depression, anxiety, non-epileptic seizures, and personality disorders (Lynch & Bronner, 2006; Mennin, 2005; Zvolensky & Otto, 2007)[4,5,6]. Consequently, the literature supports the notion that intolerance of emotion and somatic sensations may play a key role in the maintenance of conversion disorder (Brown et al., 2007; Otto et al., 2005)[7,8]. Further research has explored the relationship between distress tolerance and psychopathology in conversion disorder (Kraemer, Lowe, & Kupfer, 2005)[9].

Conversion disorder (CD) is classified under the broader category of somatoform disorders. Coined from the psychoanalytical framework by Freud, the term "conversion" suggests that symptoms manifest without organic explanation, stemming from unconscious conflicts. The prevalence of CD is notable, affecting around 10% of hospitalized inpatients and 5% to 15% of psychiatric outpatients. While the DSM-5 estimates a lower prevalence at 2 to 5 cases per 100,000 individuals, some studies suggest slightly higher rates (American Psychiatric Association, 2013; Brown & Lewis-Fernandez, 2011)[10,11]. CD onset varies across the lifespan, from early childhood to adulthood or later stages of life. It is more prevalent in women, often observed in individuals with a family history of CD, low socioeconomic status, and lower levels of education. The rationale behind selecting conversion disorder for this study lies in its significance among pervasive disorders, yet it faces challenges in receiving adequate care, including the absence of specific psychotherapy guidelines. Understanding of CD remains limited and continuously evolving. Treatment approaches lack a universally recommended method, as highlighted by Ali et al. (2015)[12]. Dialectical behavior therapy (DBT) has emerged as a promising intervention for various psychological disorders, including CD. Distress tolerance skills, integral to DBT, have been effectively utilized in addressing conditions such as deliberate self-injury, emotional and behavioral difficulties, para-suicidal behavior, affective disorders, substance abuse disorder, borderline personality disorder (BPD), and eating disorders (Chapman, 2006; Linehan, 1993, 1999; Dimeff, 2007; Telch, 2001)[13-16].Notably, CD and BPD often coexist in individuals, with a key distinction being the predominantly neurological symptoms of CD without conclusive medical or neurological evidence. This underscores the complexity and interconnectedness of psychological disorders, necessitating comprehensive research and tailored therapeutic approaches.

Numerous psychosocial interventions have emerged to address challenging populations, with Gratz and Gunderson (2006) proposing acceptance-based emotion regulation group therapy for borderline personality disorder (BPD) as one example[17]. This therapeutic approach specifically targets distress tolerance, reflecting a broader trend in behavioral therapies. Acceptance and Commitment Therapy (Hayes, 1999) is another example of a behavioral therapy that indirectly addresses distress tolerance [18]. Consequently, distress tolerance may influence various behavioral and affect regulation processes, including attentional deployment, distress appraisal, and modulation of responses to distress (Simons & Gaher, 2005)[3].

Recent advancements in functional neuroimaging have shed light on the role of emotion-based regulatory circuits in the pathophysiology of conversion disorder (CD) (Carson et al., 2012)[19]. Evidence-based treatments focusing on emotion regulation, such as those proposed by Voon et al. (2010), may hold promise for addressing CD. Devinsky, Vickrey, and Cramer (1995) suggested that inadequate coping with emotional stress due to lower distress tolerance could lead to conversion symptoms[20,21]. Similarly, Myers, Nergnbors, and Tannehill-Jones (2002) noted that individuals with CD often cope with stress and frustration through the manifestation of bodily symptoms, indicating a reduced ability to tolerate distress compared to individuals with other medical conditions[22]. A study by Nizami et

al. (2005) on female CD patients found that they employed avoidance-focused coping strategies and exhibited lower levels of frustration compared to individuals with General Medical Conditions (GMCs), suggesting lower distress tolerance as a potential factor contributing to CD development [23].

Extensive research has demonstrated the effectiveness of distress tolerance in addressing various conditions, including somatic disorders, personality disorders, depression, anxiety, non-epileptic seizures, and personality disorders (Lynch & Bronner, 2006; Mennin, 2005; Zvolensky, 2007) [4,5,24]. Kraemer, Lowe, and Kupfer (2005) proposed intolerance of emotion and somatic sensations as a central factor underlying conversion disorder, supported by studies highlighting the association between distress tolerance and CD (Brown et al., 2007; Otto et al., 2005)[7,89.]

The literature review underscores the crucial role of distress tolerance skills, particularly within the framework of Dialectical Behavior Therapy (DBT), in addressing a myriad of psychological issues. For instance, Neacsiu, Rizvi, and Linehan (2010) applied DBT to BPD to address excessive anger, with DBT-informed skills training groups showing significant reductions in anger compared to treatment as usual (TAU) groups. Building upon this foundation, the present study seeks to apply DBT to conversion disorder, aiming to evaluate the impact of distress tolerance skills on alleviating conversion symptoms[25].

Objectives

The objective of the present study is to evaluate the impact of distress tolerance skills in the enhancement of quality of life in conversion disorder.

To assess the level of distress tolerance in both intervention group and treatment as-usual groups on pre-test and post-test.

Hypothesis

1) The distress tolerance skills training will significantly enhance the quality of life in individuals suffering from conversion disorder as compared to the Tau group.
2) The intervention group will score high on distress tolerance scale on posttest as compared to pretest.

METHOD

Participants

The research was structured around an experimental two-treatment randomized design to assess the efficacy of distress tolerance skills for individuals afflicted with conversion disorder. Through purposive sampling, both control and experimental groups were meticulously selected. The primary sample size for this investigation encompassed N=24 participants, with an equal distribution of individuals (n=12) allocated to each group, all of whom were grappling with conversion disorder. Selections were drawn from the patient pools of Hayatabad Medical Complex (HMC) and Lady Reading Hospital (LRH) in Peshawar. An exclusion criterion was applied to ensure participants did not exhibit comorbidity of conversion disorder with other psychotic or neurological disorders. The majority of the sample cohort comprised females (n=22), with only two males included, reflecting the higher prevalence of conversion disorder among women. Participants' ages ranged from 18 to 40 years, with a minimum educational qualification of intermediate level. Of the participants, 11 were married, while 13 were unmarried.

Instruments

1. Quality of Life (QOL; Flanagan, 1970). It aims to evaluate an individual's satisfaction with life. Consisting of 16 items on a 7-point scale ranging from 1 to 7, where 1 represents "Terrible" and 7 represents "Delighted," this scale demonstrates good internal consistency, typically ranging between α = .82 to .92.[26.]
2. **Distress Tolerance Scale** (DTS; Simons & Gaher 2005) .it serves to assess an individual's level of distress tolerance. Comprising 15 items presented in Likert format, with responses ranging from 1 to 5, where 1 indicates "strongly agree" and 5 indicates "strongly disagree," this scale

provides insights into one's ability to tolerate distress. A higher score on the scale indicates greater distress tolerance, while lower scores signify lower tolerance for distress.[3.]

Procedure

Formal approval was obtained from the ethical committee to conduct the interventional study, and informed consent was obtained from all participants. The study employed a true single-factor experimental design, incorporating both between-subject (comparing experimental 1 and experimental 2 conditions) and within-subject designs (pre- and post-measures of the experimental 1 condition). The experimental 1 group received a distress tolerance intervention, while the treatment-as-usual (TAU) group received only pharmacological treatment for conversion disorder. Initially, participants were diagnosed based on DSM-V criteria for conversion disorder, followed by the administration of pre-tests measuring distress tolerance and quality of life scales. In the next stage, individuals were randomly assigned to either the experimental or TAU group. The experimental group received training in distress tolerance strategies to enhance their ability to cope with challenging life situations. The number of sessions varied based on the severity of conversion disorder, with individuals experiencing early onset requiring fewer sessions for recovery. Each session lasted 60 minutes and occurred twice a week in the psychiatry wards of Hayatabad Medical Complex (H.M.C) and Lady Reading Hospital (L.R.H) Peshawar.The TAU group initially received referrals to psychiatrists for drug treatment. After 12 sessions with the experimental group, both groups underwent post-assessments of distress tolerance and quality of life to evaluate the impact of distress tolerance skills.In the DBT skills training plan for the present study, the first week of treatment included mindfulness exercises conducted twice a week. In the second and third weeks, four sessions each of distress tolerance training and exercises were conducted twice a week.

Results

Table 1

Descriptive statistic of DTS and QOL scales in the pilot study (n=50)

Measures	No. of items	*M*	*SD*	*S*	*K*	*α*
Distress Tolerance Scale	15	27.91	5.92	.098	-1.27	.74
Quality of Life Scale	16	69.59	16.06	.090	-.30	.89

Table 1 presents the psychometric properties of the scale. Before applying the scales to the patient population they were pilot-tested on a small(n=50) student sample to determine their psychometric soundness. The coefficient alpha for both scales is high suggesting high reliability. The values of skewness and kurtosis also suggest a normal distribution of the data.

Table 2

t-values showing differences on the post-test of the experimental group on the QOL Scale

	Pre Test Measure (n = 12)		Post Test Measure (n = 12)				Cohen's *d*
Measure	*M*	*SD*	*M*	*SD*	*t*(22)	*P*	
QOL	55.66	9.69	77.16	8.14	5.88	.000	2.40

Note. QOL=Quality of life

Table 2 shows the significant difference between the experimental and Tau group in the posttest of quality of life. Higher mean values for the experimental group show a significant increase in the quality of life of individuals who received therapy. Cohen's d also shows a very large effect size

Table 3

t-test Comparison between experimental and control groups on pre-tests of DTS

	TAU group (n = 12)		Experimental group (n = 12)				Cohen's d
Measure	*M*	*SD*	*M*	*SD*	*t*(22)	*P*	
DTS	30.41	6.09	30.33	4.45	-.038	.97	0.01

Note. DTS=Distress Tolerance Scale Table 3 provides evidence that before treatment the experimental and Tau groups showed non-significant differences in distress tolerance.

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Table 4

Post-test comparison of t-value indicating differences between the experimental and control group on of DTS

	TAU group (n = 12)		Experimental Group (n = 12)				Cohen's d
Measure	*M*	*SD*	*M*	*SD*	*t*(22)	*P*	
DTS	32.75	5.73	39.91	5.93	-2.86	.009	1.22

Note. DTS=Distress Tolerance Scale

Table 4 shows that the experimental group after receiving therapy has significantly scored higher on distress tolerance than the Tau group, suggesting the effectiveness of DBT for the treatment of conversion disorder.

Discussion

The present study was crafted to explore how distress tolerance skills could enhance the quality of life in individuals grappling with conversion disorder. Detailed analysis of the scales revealed robust reliability, instilling confidence in their utility.Our first hypothesis posited significant disparities in pre- and post-assessment scores for quality of life within the experimental group. Table 3 underscores the notable discrepancy observed in paired sample t-tests between pre- and post-tests on the Quality of Life (QOL) scale, validating our hypothesis. Following training in distress tolerance skills within the framework of Dialectical Behavior Therapy (DBT) and mindfulness techniques, participants exhibited marked improvements in their QOL scores. Gratz and Gunderson (2006) previously applied similar skills to females with borderline personality disorder (BPD), observing a return to normative functioning compared to a treatment as usual (TAU) group that showed no improvement[17].

A closer examination of our findings reveals that the efficacy of Distress Tolerance Scale (DTS) can be attributed to the distraction techniques and the ability to weigh the pros and cons of behavior, as espoused by Linehan (1993a)[27]. These strategies enabled participants to disengage from distressing situations and break

free from detrimental cycles. Moreover, cultivating mindfulness and self-soothing skills proved instrumental in mitigating conversion symptoms (Johnson, 1985; Linehan, 1993b) [28,29]. Distress tolerance encompasses two pivotal components: acceptance and the capacity to endure unpleasant circumstances (Linehan, 1993a). It underscores the acknowledgment that pain and distress are inevitable facets of life that should neither be avoided nor denied [27]. Attempting to deny or suppress emotions often exacerbates our vulnerability to problems, leading to increased pain and suffering. Suppression is a frequently employed defense mechanism in conversion disorder, where individuals may exhibit symptoms such as paralysis or sensory deficits to avoid confronting painful information in their consciousness. Engaging in mindful, non-judgmental practices teaches individuals to accept, endure, and tolerate unpleasant emotions associated with various experiences.

As participants in the experimental group honed in on life's essential aspects, they redirected their focus from trivial concerns to core values and consistent behaviors, thus mitigating the enduring repercussions of transient emotional distress stemming from impulsive behaviors. Studies on borderline personality traits (Bornovalova, Matusiewicz, & Rojaz, 2011) [30] have echoed similar sentiments, highlighting the efficacy of reducing distress levels in response to emotional stimuli. Furthermore, Potenza and Carty (2001) underscored the effectiveness of DBT in enhancing QOL[31].

Linehan (1991) demonstrated that engaging in work, academics, volunteerism, and recreational pursuits can bolster QOL [32]. Similarly, our findings indicate that reduced hospital visits, decreased instances of conversion symptoms and negative behaviors, and heightened engagement in occupational and academic pursuits collectively contributed to improved QOL among participants. Dimeff and Koerner (2007) emphasized that occupational success correlates with improved QOL, a notion corroborated by our study where participants, including housewives and students, reported fewer symptoms and engaged in healthier, more productive activities [33].

The second hypothesis of the study was confirmed, revealing a significant difference between the experimental and control groups. The experimental group demonstrated higher scores on the post-test compared to the TAU group ($t= 2.86$, $p < .009$, Cohen's $d=1.22$). Linehan (1993) similarly observed the effectiveness of distress tolerance training in Borderline Personality Disorder [34.] Additionally, Koon et al. (2001) investigated women in the armed forces, finding that those who received distress tolerance skills training showed a decrease in depressive symptoms and parasuicidal acts compared to the control group [35]. Further supporting evidence from Linehan's studies in 1999 and 2002 also highlighted the promising outcomes of Distress Tolerance Skills compared to other parallel treatments in individuals with Borderline Personality Disorder.

The second hypothesis of the study posited that the intervention group would demonstrate enhanced distress tolerance in the posttest assessment. The t-test revealed a significant difference ($t (22) = -4.919$) between pre and posttest scores, indicating improvement. Participants reported that employing distress tolerance techniques during challenging times facilitated better outcomes. Among the most commonly utilized techniques was the "self-soothing" method, which helped individuals calm themselves during distressing situations. Additionally, techniques such as distraction, mindful breathing, and creating a safe space enabled participants to endure hardships with patience and take appropriate action when necessary. Post-assessment measurements indicated an improvement in distress tolerance compared to pre-assessment. Moreover, participants learned the value of accepting their emotions without attempting to change or suppress them. By acknowledging emotions as a natural part of life, rather than denying reality, individuals could better manage their behavior in distressing situations. Distraction and self-soothing techniques were particularly effective in promoting acceptance and control of behavior during states of distress. This approach aimed to

maintain a calm demeanor and address problems once emotions had subsided, thus preventing impulsive reactions. Choudhary and Thapa (2012) demonstrated the efficacy of this approach in teaching individuals with Borderline Personality Disorder to confront intense negative emotions without resorting to harmful behaviors [36]. Comparison with the treatment as usual (TAU) group, which showed no improvement in distress tolerance on the posttest of the Distress Tolerance Scale (DTS), highlighted the importance of accepting pain and employing effective coping strategies during distressing events. Attempting to suppress or avoid painful emotions only prolongs suffering, as noted by North (2012) [37]. Similarly, Brown, Comtois, and Linehan (2002) supported the notion that low distress tolerance contributes to self-harming behavior as a means of seeking relief from negative feelings [38]. Overall, the study's findings underscored clinically significant improvements in distress tolerance and quality of life in the intervention group compared to pre-assessment, demonstrating the effectiveness of Dialectical Behavior Therapy (DBT) in treating conversion disorder.

Limitations and Suggestions

1. A limitation of the data lies in the lack of diversity within the sample, predominantly comprised of females, with 50% being students. Future studies should aim to include a more heterogeneous sample to enhance the generalizability of findings.
2. Addressing challenging behaviors such as conversion disorder (CD) proved to be difficult, particularly in terms of encouraging patients to attend follow-up sessions within our cultural context.
3. The use of scales in English language posed a limitation as it excluded less educated individuals from participation. Future research endeavors should consider utilizing indigenous or translated versions of the scales to ensure inclusivity.
4. The current study solely employed distress tolerance skills from Dialectical Behavior Therapy (DBT) to address conversion disorder. It is recommended that future research adopt a more comprehensive DBT protocol to explore its efficacy further.
5. Future research should explore the application of DBT in addressing a wider range of psychological problems beyond conversion disorder, thereby expanding its utility in clinical settings.
6. Given the effectiveness of DBT in treating conversion disorder, there is a suggestion to incorporate DBT skills training into the curriculum for clinical psychologists in both Public and Private Hospitals. This would provide an alternative approach to pharmacological drugs or Electroconvulsive Therapy (ECT) in clinical practice.

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