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The Effectiveness of Paradoxical Psychotherapy on Trichotillomania Disorder

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A B S T R A C T

Trichotillomania is a subtype of obsessive-compulsive related disorders characterized by recurrent hair pulling and inability to control the behavior, leading to various physical and psychological consequences. Considering the limited effectiveness of current treatments and the need for innovative approaches, the present study aimed to evaluate the effectiveness of Paradoxical Psychotherapy like PTC model in reducing symptoms of trichotillomania. In In this single-group quasi-experimental time-series, 17 women with symptoms of trichotillomania were selected through purposive sampling. The intervention consisted of five sessions based on the PTC model, and assessments were conducted at four stages (baseline, Third session, post-treatment, and two-month follow-up) using the Massachusetts General Hospital Hairpulling Scale (MGH-HS) and the Treatment Outcome Subjective Rating Scale (TOSRS). Data were analyzed using repeated measures ANOVA and Friedman test. Findings showed that Paradoxical psychotherapy significantly reduced trichotillomania symptoms over time (η^2=0.85, $p<0.001$), with the greatest changes observed between baseline and follow-up. TOSRS results also indicated significant improvement in participants' condition and the persistence of therapeutic effects during follow-up Paradoxical psychotherapy, by altering the individual's relationship with the symptom, reducing performance anxiety, and strengthening ego functions, can effectively reduce trichotillomania symptoms both rapidly and sustainably. Therefore, Paradoxical psychotherapy can be recommended as a short-term and targeted intervention for trichotillomania, especially in cases resistant to direct treatment approaches.

Keywords: *Trichotillomania, Hair-Pulling Disorder, Paradoxical Psychotherapy, Prescribing the symptom, paradoxical intervention,*

1. Introduction

Obsessive-Compulsive and Related Disorders (OCRDs) are among the prevalent mental health conditions, characterized by obsessions (intrusive and unwanted thoughts or images) and compulsions (repetitive behaviors or mental acts performed in response to these obsessions). Some of these disorders, such as trichotillomania (hair-pulling disorder) and excoriation (skin-picking) disorder, are classified within the category of 'Body-Focused Repetitive Behaviors' (BFRBs) (DSM5-TR, 2022).

Trichotillomania (TTM) is characterized by recurrent hair pulling, leading to hair loss and repeated unsuccessful efforts to stop or diminish the behavior (Ali et al., 2024; DSM5-TR, 2022). Hair pulling can occur from any region of the body, yet the most common sites include the scalp, eyebrows, and eyelashes. This disorder is often accompanied by a sense of compulsion and shares similarities with obsessive-compulsive disorder (Ali et al., 2024).

The diagnostic criteria for trichotillomania according to the DSM-5-TR include persistent hair pulling resulting in hair loss, repeated attempts to reduce or cease hair pulling, clinically significant distress or impairment in social, occupational, or other important areas of functioning, and the disturbance not being attributable to another medical condition or mental disorder (DSM5-TR, 2022). The prevalence in adults is reported to be between 0.6% and 2.2%, with a higher incidence observed in women compared to men (Grant et al., 2021; Houghton et al., 2018). An online survey of over 10,000 adults aged 18-69, representative of the US general population, indicated that 1.7% self-identified as having current trichotillomania, with no statistically significant gender differences in rates (1.8% men and 1.7% women) (DSM5-TR, 2022).

The consequences of trichotillomania are numerous, including alopecia and permanent hair loss (Grant, 2019), gastrointestinal complications due to trichophagia (hair eating) (Hariri et al., 2017; Subki et al., 2022), sleep disturbance (Peris et al., 2020), anxiety and depression (Grant et al., 2020), and diminished self-esteem and social functioning (Shafaei et al., 2022; Wetterneck et al., 2006).

Trichotillomania is frequently comorbid with other psychiatric disorders, most commonly major depressive disorder and excoriation (skin-picking) disorder (DSM5-TR, 2022). It often co-occurs with other repetitive behaviors such as skin picking or nail biting and is associated with feelings of shame, guilt, social isolation, and impaired quality of life (Christensen et al., 2023). Furthermore, emerging evidence suggests that both trichotillomania and excoriation disorder are associated with increased suicidal ideation, non-suicidal self-injury, and higher rates of substance use (Collins & Grant, 2025; Crisp & Grant, 2025).

In recent years, diverse therapeutic approaches for trichotillomania have been introduced, encompassing psychological, pharmacological, and non-invasive interventions. Research has indicated that behavioral psychotherapies, particularly Habit Reversal Training (HRT), demonstrate superior efficacy in reducing symptoms compared to pharmacological treatments (Christensen et al., 2022; Farhat et al., 2020; Skurya et al., 2020). Additionally, one study reported hypnotherapy to be more effective than some conventional treatments (Shafaei et al., 2022).

Among psychological treatments, HRT is recognized as the most common behavioral approach, focusing on awareness training and the substitution of competing responses (Christensen et al., 2023). Integrating HRT with Cognitive-Behavioral Therapy (CBT) has shown higher efficacy in reducing TTM symptoms (McGuire et al., 2014). Furthermore, Dialectical Behavior Therapy (DBT) has been reported effective in reducing symptom severity, improving emotion regulation, and alleviating co-occurring anxiety and depression (Keuthen et al., 2012). Acceptance and Commitment Therapy (ACT), by enhancing cognitive flexibility and acceptance of negative emotions, also contributes to patient improvement (Asplund et al., 2021). Another utilized approach is Exposure and Response Prevention (ERP), which involves assessing behavioral patterns, creating a hierarchy of triggers, and implementing gradual exposure, leading to significant clinical improvement (Brauer & Grant, 2017). Moreover, the Comprehensive Behavioral (ComB) model, focusing on cognitive, affective, sensory, and environmental factors associated with hair pulling, has resulted in symptom reduction and improved quality of life within an 8 to 12-week timeframe (Christensen et al., 2023). Preliminary evidence also suggests that psychodynamic therapy can be effective in reducing hair pulling and regulating underlying emotions, although further research in this area is warranted (Aukerman et al., 2022).

Pharmacological treatments have also been investigated for this disorder. Various classes of medications have been utilized, including Selective Serotonin Reuptake Inhibitors (SSRIs), Tricyclic Antidepressants (TCAs), glutamate modulators, antipsychotics, anticonvulsants, opioid antagonists, and cannabinoid derivatives. Fluoxetine,

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sertraline, and fluvoxamine have been studied more extensively than others; however, findings indicate that their efficacy is generally inferior to behavioral therapies (Christensen et al., 2022).

In addition to psychological and pharmacological treatments, non-invasive interventions have garnered attention. Microneedling has been shown in some studies to reduce the urge to pull hair (Christensen et al., 2022). Furthermore, repetitive Transcranial Magnetic Stimulation (rTMS) has been reported to be effective in reducing symptom severity, although some results indicate the potential for symptom exacerbation in certain patients (Aydın et al., 2020).

Existing treatments for trichotillomania, including pharmacotherapy, psychotherapy, and other interventions, face significant limitations that reduce their overall effectiveness. Major limitations in pharmacotherapy include the lack of FDA-approved medications specifically for this disorder, insufficient response rates (approximately 25-37.5%), high relapse rates following discontinuation, and the presence of significant side effects with antipsychotics such as olanzapine, which can lead to treatment dropout. Furthermore, the optimal dosage, timing, and effective route of administration for medications like N-Acetylcysteine (NAC) are not yet fully established (Roosdy & Ngantung, 2025).

Non-pharmacological therapies also face important challenges, including the absence of a standardized, evidence-based gold-standard psychological intervention, high relapse rates even after effective treatments like HRT, limited access to specialist therapists with adequate training to deliver these therapies, and a high treatment dropout rate (approximately 20%), particularly observed among individuals with higher education levels and a history of depression (DuBois et al., 2025). Additionally, the diversity of hair-pulling patterns across patients necessitates personalized treatment approaches, thereby increasing the complexity of management. These limitations underscore the necessity for developing novel therapeutic methods and improving access to specialized care for this chronic and disabling disorder.

In this context, Paradoxical Psychotherapy like PTC model has emerged as an innovative approach with significant potential for treating various disorders, including those within the obsessive-compulsive spectrum (Besharat, 2019a, 2020, 2023). The PTC model, developed by Besharat, is an approach grounded in psychodynamic, systematic, and behavioral theories. It centers on two primary techniques: paradox (prescribing the very symptom or client behavior) and scheduling (performing the paradoxical task at specified times) (Asayesh & Parsakia, 2025; Besharat, 2019a, 2023). The historical antecedents of this method trace back to Adler and Viktor Frankl (Adler, 1924; Frankl, 1960); for instance, Frankl encouraged clients with examination anxiety to deliberately envision the worst outcomes and aim to fail the exam intentionally (Frankl, 1975). Paradoxical interventions enable clients to develop a more flexible perspective toward their problem and experience their behavior or emotions from a different angle, consequently facilitating rapid behavioral change (Peluso, 2022; Peluso & Freund, 2023).

Paradoxical psychotherapy like PTC model has thus far been applied to treat a wide range of disorders, including anxiety and obsessive-compulsive disorders (Besharat, 2023) such as Obsessive-Compulsive Disorder(OCD) (Besharat, 2019a; Mohammadi et al., 2019), Social Anxiety Disorder (SAD) (Besharat, 2019b; Nikan et al., 2021), and Body Dysmorphic Disorder (BDD) (Besharat, 2020), with results indicating positive and rapid effects. Given the rapid and often sustained response associated with this method, utilizing paradoxical psychotherapy could potentially reduce both patient dropout and symptom relapse, in addition to reducing core symptoms (Besharat, 2020, 2023)

Despite the diversity of available treatment approaches for trichotillomania—ranging from psychological therapies such as HRT and CBT to pharmacological interventions—the field faces major challenges. As noted, these challenges include insufficient response rates, medication side effects, high relapse rates post-treatment, and, most importantly, the absence of a standardized, accessible "gold-standard" treatment. These limitations clearly indicate that developing and investigating innovative, effective, and durable treatment methods is an undeniable necessity in the field of trichotillomania interventions.

In this regard, Paradoxical Psychotherapy presents itself as a short-term, systematic, and evidence-based intervention with significant potential to address this therapeutic gap. This approach, which transforms the patient's perception and relationship with their symptom through the prescription of the symptom itself, has already demonstrated promising success in treating Obsessive-Compulsive and Related Disorders. Therefore, the primary objective of this article is to investigate the effectiveness of Paradoxical Psychotherapy intervention on reducing symptoms of trichotillomania. This research aims to take a step toward overcoming the limitations of current methods in treating

KMAN-CPN KMAN-Counseling & Psychology Nexus
E-ISSN: 3041-9026

trichotillomania by introducing a powerful alternative therapeutic option.

2. Methods and Materials

2.1. Study Design and Participants

Given the exploratory nature of the study, the specific type of intervention, the required number of sessions, and research constraints—such as limited access to a larger number of individuals with trichotillomania symptoms, the necessity to adhere to professional ethics, and the urgency to promptly initiate the intervention for volunteers suffering from the distress caused by the disorder—the use of controlled experimental designs or larger samples was not feasible. Consequently, a single-group quasi-experimental time-series design was selected. This method (also called an interrupted time series design) is a design that examines the effects of an intervention on one group measured repeatedly across multiple time points before and after the intervention (Nianogo et al., 2023). It is used when random assignment is not feasible or/and when researchers have longitudinal data available that allow for tracking changes over time (Kontopantelis et al., 2015; Schweizer et al., 2016).

A non-probability purposive sampling method was employed for participant recruitment - utilizing volunteer sampling followed by deliberately selecting participants by the researcher based on specific characteristics, criteria, or purposes relevant to the research (Ahmed, 2024; Wang, 2024). Inclusion criteria consisted of having symptoms of trichotillomania, being female, being above 18 years of age, and residing in Tehran. Exclusion criteria included an inability to attend the sessions, concurrent engagement with another psychotherapist, or use of psychotropic medication during the research period. Ultimately, 17 women with trichotillomania symptoms participated in the study (Mean Age = 27.4, SD = 8.28). The collected data were analyzed using repeated measures analysis of variance (ANOVA) (Blanca et al., 2023) and the non-parametric Friedman test (Kim, 2014).

2.2. Measures

Following assessment based on the inclusion and exclusion criteria, eligible volunteers were selected as the study sample, and a diagnostic interview based on DSM-5-TR was conducted. Therapeutic assessments regarding symptoms and disorder status were performed at four time points: before the intervention (baseline), after the initiation of the intervention (third session), at the end of the intervention (sixth session/post-treatment), and two months after the final intervention session (follow-up). These assessments utilized the Treatment Outcome Subjective Rating Scale (TOSRS) (Besharat, 2003, 2016) and the Massachusetts General Hospital Hairpulling Scale (MGH-HS) (Keuthen et al., 1995).

2.2.1. Treatment Outcome Subjective Rating Scale (TOSRS)

This scale was developed by Besharat (2003) to quantify the client's satisfaction with the treatment and their perceived level of change. The level of symptomatic and general change in the client's condition can be assessed verbally by the therapist during the session, or a written form of the scale can be provided for the client to complete. The TOSRS comprises two measurement dimensions: the client's percentage of change (10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, and 100%) and the client's change rating (a score from 1 to 10, where 10 indicates the maximum amount of change). In this study, the client's report of symptom change and improvement was obtained verbally and recorded by the therapist. The inter-rater reliability of this scale, calculated using Intraclass Correlation Coefficients (ICC) for 47 couples, ranged from 0.80 to 0.94 (Besharat, 2003, 2016). The test-retest reliability of the TOSRS in the current study, assessed using Spearman's rank-order correlation between successive administrations, ranged from 0.61 to 0.71 (all $p < .05$), indicating acceptable temporal stability.

2.2.2. Massachusetts General Hospital Hairpulling Scale (MGH-HS)

The MGH Hairpulling Scale was initially designed as an 8-item questionnaire. However, after data analysis, the "Social Impact" item was removed due to its poor correlation with the total score and limited response variability, resulting in the final 7-item version (Keuthen et al., 1995). This self-report scale consists of 7 items, each assessing a different dimension of hair-pulling behavior: frequency and intensity of urges, ability to control urges, frequency of hair pulling, resistance against hair pulling, sense of control over hair pulling, and associated distress and impairment. Each item is scored on a 5-point Likert scale (0 to 4), yielding a total score ranging from 0 to 28; a higher score indicates greater disorder severity.

KMAN-CPN
KMAN-Counseling & Psychology Nexus
E-ISSN: 3041-9026

The scale's reliability has been confirmed with a Cronbach's alpha coefficient of 0.89, and factor analysis has supported its unidimensional structure, explaining 93% of the variance (Keuthen et al., 1995). Iranian studies have also reported satisfactory reliability and validity: Cronbach's alpha ranging from 0.82 to 0.89 (Faroughi et al., 2017; Sharifipour et al., 2017) and confirmed face and content validity. No specific cut-off score has been defined for this scale, and symptom analysis is typically supplemented by clinical interview and verbal inquiry. In the current study, the internal consistency of the Persian version of the MGH-HS was assessed using Cronbach's alpha across all four measurement time points. The reliability coefficients ranged from 0.77 to 0.86, with a mean alpha of 0.83, indicating good to excellent internal consistency throughout the study period.

2.3. *Intervention Protocol Based on the Paradoxical Psychotherapy (like PTC Model)*

Based on the paradoxical psychotherapy like PTC model, the first session involves social conversation and initial introductions, after which the client describes their main problem, and a paradoxical practice is prescribed. The client is obliged to perform the paradoxical tasks at specified times and with a set frequency, which typically continues throughout the therapy in a diminishing manner or with modifications as required by the therapist. In subsequent sessions, the implementation of the tasks and the client's experience are reviewed and adjusted if necessary. Treatment termination involves the gradual reduction of practices and education on how to manage potential symptom recurrence. Sessions were typically held bi-weekly, with the first session lasting 50 minutes and subsequent sessions lasting 20–40 minutes. the treatment duration was short-term. The face and content validity of this protocol have been confirmed by Besharat in various studies (Besharat, 2019a, 2019b, 2020). The administration of the Paradoxical Psychotherapy sessions is explained in detail below:

Session 1 involved establishing a therapeutic alliance, conducting the clinical interview, listening to the client's report of their problems and chief complaint, introducing the treatment plan, and scheduling the paradoxical practices—specifically prescribing voluntary hair-pulling 3 times per day at specific times, for a maximum of 5 minutes each time.

Session 2 consisted of reviewing the client's report on the paradoxical practices, examining how the tasks were performed, assessing the individual's psychological status and quality of life during the inter-session period, troubleshooting any potential issues in task execution, and reducing the frequency of the paradoxical practices from 3 times to 2 times per day at specific times.

Session 3 included reviewing the client's report on the paradoxical practices, examining how the tasks were performed, assessing the individual's psychological status and quality of life during the inter-session period, troubleshooting any potential issues in task execution, modifying the exercise frequency from twice daily to once daily, adding an exercise for emotions experienced during hair-pulling twice daily for a maximum of 10 minutes each, and setting times for performing the tasks.

Session 4 followed the same structure of reviewing the client's report on the paradoxical practices, examining how the tasks were performed, assessing the individual's psychological status and quality of life during the inter-session period, and troubleshooting any potential issues in task execution. It then involved modifying the prescribed hair-pulling exercise frequency from once daily to once every other day, adjusting the emotion-focused exercise from twice daily to once daily, and setting times for performing the tasks.

Session 5 again comprised reviewing the client's report on the paradoxical practices, examining how the tasks were performed, assessing the individual's psychological status and quality of life during the inter-session period, and troubleshooting any potential issues in task execution. The session focused on maintaining the prescribed hair-pulling exercise at once every other day to stabilize symptom improvement, adjusting the emotion-focused exercise to once every other day, and setting times for performing the tasks.

Session 6 entailed reviewing the client's report on the paradoxical practices, examining how the tasks were performed, assessing the individual's psychological status and quality of life during the inter-session period, providing explanations regarding treatment termination and instructing the client on how to cope with potential future symptoms, and concluding the sessions.

Throughout the protocol, between-session assignments were explicitly scheduled, and their timing and frequency were systematically adjusted based on the client's progress and therapeutic needs.

KMAN-CPN KMAN-Counseling & Psychology Nexus
E-ISSN: 3041-9026

2.4. Data analysis

Data from all 17 participants across the four assessment phases (baseline, third session, post-treatment, and two-month follow-up) were analyzed using Repeated-Measures Analysis of Variance (ANOVA) and the non-parametric Friedman test. Initially, the normality of the data was assessed using the Shapiro-Wilk test, and the sphericity assumption was evaluated using Mauchly's test. For the MGH-HS scale, where the sphericity assumption was violated, the Greenhouse-Geisser correction was applied. The results were then analyzed using Repeated-Measures ANOVA (both overall and via pairwise comparisons). However, for the TOSRS data, which violated the assumption of normality, the non-parametric Friedman test was employed.

3. Findings and Results

Descriptive statistics for both measures are presented in Table 1.

Table 1

Descriptive Statistics for the TOSRS and MGH-HS Scales

Scale	Phase	Mean	Standard Deviation
MGH-HS	Baseline	18.94	2.24
	Third session	16.06	2.30
	Post-Treatment	11.71	2.49
	Follow-up	10.71	1.99
TOSRS	Baseline	9.12	0.78
	Third session	5.06	2.68
	Post-Treatment	1.94	1.75
	Follow-up	1.29	0.47

Following the examination of descriptive indices (Table 1), the assumption of sphericity was assessed using Mauchly's test (Table 2).

Table 2

Results of Mauchly's Test for Sphericity for the MGH-HS Scale Data

Within-Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Significance (p)	Greenhouse-Geisser Epsilon	Huynh-Feldt Epsilon	Lower-bound Epsilon
MGH-HS	0.211	22.875	5	< 0.001	0.552	0.608	0.333

According to Table 2, with a significance level of less than 0.001 ($p < .001$), the assumption of sphericity was violated. Therefore, the Greenhouse-Geisser correction was applied for data analysis.

Table 3

Results of Repeated-Measures ANOVA for the MGH-HS Scale

Source	Sphericity Correction	Sum of Squares	df	Mean Square	F	Significance (p)	Effect Size (η^2)
MGH-HS	Greenhouse-Geisser	752.588	1.565	454.568	92.334	< .001	0.852
Error	Greenhouse-Geisser	130.412	26.490	4.923	-	-	-

The results in Table 3 indicate that Paradoxical Psychotherapy had a statistically significant effect on trichotillomania symptoms ($p < .001$, $\eta^2 = 0.852$). The effect size ($\eta^2 = 0.852$) demonstrates that the intervention accounted for a large proportion of the variance in symptom reduction, and the F value (92.334) indicates a substantial effect of the independent variable (paradoxical psychotherapy) on the dependent variable (trichotillomania symptoms). The following table presents the results of pairwise comparisons across the four measurement phases to examine the effect of Paradoxical Psychotherapy on

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E-ISSN: 3041-9026

trichotillomania symptoms (MGH-HS) using the Bonferroni test:

Table 4

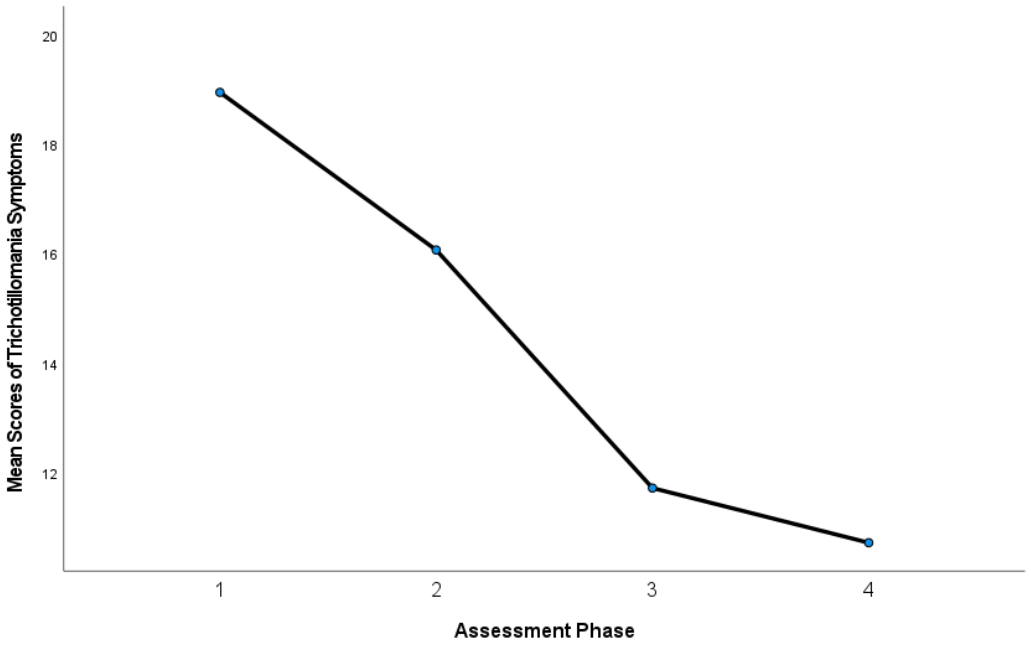
Results of Pairwise Comparisons of MGH-HS Measurement Phases Using the Bonferroni Test

(I) Phase	(J) Phase	Mean Difference (I-J)	Standard Error	Significance (p)
Baseline	Third session	2.882	0.283	< .001
	Post-Treatment	7.235	0.597	< .001
	Follow-up	8.235	0.673	< .001
Third session	Baseline	-2.882	0.283	< .001
	Post-Treatment	4.353	0.664	< .001
	Follow-up	5.353	0.653	< .001
Post-Treatment	Baseline	-7.235	0.597	< .001
	Third session	-4.353	0.664	< .001
	Follow-up	1.000	0.402	.146
Follow-up	Baseline	-8.235	0.673	< .001
	Third session	-5.353	0.653	< .001
	Post-Treatment	-1.000	0.402	.146

The results of pairwise comparisons of MGH-HS score changes across the four measurement phases revealed significant differences between the mean scores of the first phase and the second (MD = 2.882, $p < .001$), third (MD = 7.235, $p < .001$), and fourth phases (MD = 8.235, $p < .001$). Furthermore, the mean scores of the second phase showed significant differences from the third (MD = 4.353, $p < .001$) and fourth phases (MD = 5.353, $p < .001$). The only non-significant difference was observed between the mean scores of the third and fourth phases (MD = 1.000, $p = .146$). These findings indicate a significant effect of the intervention on reducing trichotillomania symptoms over time, with the greatest improvement occurring between the first and fourth measurement phases. Figure 1 illustrates the comparative changes in the mean scores of trichotillomania symptoms across the four measurement phases.

Figure 1

Changes in Mean Scores on the MGH-HS Scale Across the 4 Assessment Phases



KMAN-CPN KMAN-Counseling & Psychology Nexus
E-ISSN: 3041-9026

For the analysis of the data related to the TOSRS across the four assessment phases (baseline, third session, post-treatment, and two-month follow-up), the non-parametric Friedman test was used. The results of the mean ranks are presented in Table 5.

Table 5

Mean Ranks of the Assessment Phases for the TOSRS Based on the Friedman Test

Phase	Mean Rank
Baseline	4.00
Third session	2.91
Post-Treatment	1.71
Two-Month Follow-up	1.38

The overall results of the Friedman test for the TOSRS are presented in Table 6.

Table 6

Overall Results of the Friedman Test for the TOSRS

N	Chi-Square Statistic	df	Significance (p)
17	48.409	3	< .001

As shown in Table 6, the Friedman test indicated a statistically significant difference among the four measurement phases ($\chi^2(3) = 48.409$, $p < .001$). This finding suggests that the severity of symptoms changed significantly across the different stages of treatment. To further investigate the specific differences between phases, post-hoc pairwise comparisons were conducted using the Wilcoxon signed-rank test. The results are presented in Table 7.

Table 7

Results of Pairwise Comparisons of TOSRS Measurement Phases Using the Wilcoxon Signed-Rank Test

Phase Comparison	Z-statistic	Significance (p)*
Third session vs. Baseline	-3.632	< .001
Post-Treatment vs. Baseline	-3.676	< .001
Follow-up vs. Baseline	-3.691	< .001
Post-Treatment vs. Third session	-3.420	< .001
Follow-up vs. Third session	-3.527	< .001
Follow-up vs. Post-Treatment	-2.121	.034

* Significant with Bonferroni correction applied (adjusted alpha level: $p < .0083$)

After applying the Bonferroni correction (adjusted significance level: $p < .0083$), all pairwise comparisons except for the one between the "Two-Month Follow-up" and "Post-Treatment" phases showed statistically significant differences. This finding indicates that the intervention had a significant effect on symptom reduction and that therapeutic effects remained stable during the follow-up period, with no significant relapse of symptoms. Overall, the findings demonstrate a consistent reduction in symptoms throughout the treatment and their stabilization through the follow-up period.

4. Discussion

This study aimed to investigate the effectiveness of Paradoxical Psychotherapy on symptoms of trichotillomania (hair-pulling disorder) in women. The results demonstrated that paradoxical psychotherapy led to a statistically significant reduction in trichotillomania symptoms over time, with the most substantial decrease observed between the baseline and the two-month follow-up. Findings from both the repeated measures ANOVA (for MGH-HS) and the Friedman test (for TOSRS) indicated that the intervention had a positive effect on all dimensions associated with hair-

KMAN-CPN KMAN-Counseling & Psychology Nexus
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pulling behavior. These results suggest that paradoxical psychotherapy can be an effective short-term and targeted method for reducing symptoms of trichotillomania.

Within the existing literature, no prior independent study has specifically investigated the efficacy of paradoxical psychotherapy on trichotillomania symptoms. However, the findings of this research are consistent with results from international studies on the effectiveness of paradoxical techniques for various disorders. For instance, Viguer et al. (2024), in a scoping review, showed that paradoxical interventions can be particularly effective for treating sleep problems and treatment-resistant anxiety. Similarly, a meta-analysis by Peluso and Freund (2023) found that paradoxical interventions have positive long-term effects on clinical outcomes and show a significant effect compared to control groups. Jansson-Fröjmark et al. (2022) also demonstrated that paradoxical interventions were effective in reducing insomnia symptoms and sleep-related performance anxiety.

Domestic studies in Iran also confirm the efficacy of Paradoxical Psychotherapy. Etesamipour and Ramezanzadeh Moghaddam (2023) reported that Paradoxical Psychotherapy reduced anger rumination associated with COVID-19 anxiety. studies by Besharat (Besharat, 2019a, 2019b, 2020) and Mohammadi et al. (2019) indicated that paradoxical psychotherapy was effective in reducing symptoms of Obsessive-Compulsive Disorder (OCD), Social Anxiety Disorder (SAD), and Body Dysmorphic Disorder (BDD), with its therapeutic effects remaining stable at long-term follow-ups. The findings of the present study, which show a significant reduction in trichotillomania symptoms during treatment and follow-up, align with these studies, indicating the rapid and sustained effectiveness of paradoxical psychotherapy.

Based on Freudian psychoanalytic theory, the personality structure comprises three main components: the Id, Ego, and Superego (Freud, 1961). When conflict arises between the instinctual demands of the Id and the moral imperatives of the Superego, the Ego is placed under pressure, leading to the emergence of anxiety. In such circumstances, the Ego employs defense mechanisms to protect the individual from this anxiety (Gundersen, 2022). ego defense mechanisms play a vital role in reducing tension and anxiety (Palarani & Hadiyanto, 2022). Although these mechanisms help reduce anxiety in the short term, they can lead to psychological problems in the long run (Habsy et al., 2023).

The psychodynamic approach to trichotillomania posits that this behavior is the result of unconscious internal conflicts (Aukerman et al., 2022). Therefore, hair pulling can function as a defense mechanism to reduce anxiety and psychological tension stemming from these internal conflicts. The internal conflict associated with trichotillomania can be interpreted in various ways within this framework. Hair pulling can symbolize a form of self-harm rooted in negative feelings towards the self. It may also serve as a way to express internalized anger or as a response to feelings of. It can carry various symbolic meanings, such as separation from a loved object or person, unconscious self-punishment due to guilt, and an attempt to control and master one's body in situations where the individual feels powerless rejection (Aukerman et al., 2022; Swedo & Rapoport, 1991).

One of the diagnostic criteria for trichotillomania is a sense of tension reduction following the hair-pulling behavior (DSM5-TR, 2022), which is linked to the reduction of tension and anxiety resulting from the activation of defense mechanisms. This maladaptive tension-reducing behavior can be viewed through the lens of various defense mechanisms:

Displacement: Tensions and negative emotions are transferred to the behavior of hair pulling instead of being expressed directly (Aukerman et al., 2022). Consequently, instead of addressing the primary source of stress or conflict, the individual expresses these feelings through hair pulling. In some cases, hair pulling can result from a reaction formation against aggressive impulses (Oguchi & Miura, 1977). Instead of expressing anger towards others, the individual turns this aggression inward towards themselves (Duke et al., 2010).

Repression: Repressed unconscious painful content manifests as behavioral impulses, such as hair pulling (Aukerman et al., 2022).

Projection: In some instances, the projection of negative emotions onto one's own appearance (e.g., one's hair) can lead to pulling it out (Aukerman et al., 2022).

Hair pulling may manifest both as a result of the activation of other defense mechanisms like displacement, repression, or projection, and also function as an independent defense mechanism in itself that reduces anxiety. Although this mechanism provides short-term relief, its persistent or intense use can create psychological and behavioral problems, trapping the individual in a cycle of anxiety and hair-pulling behavior. From this perspective, the therapeutic goal is to restructure the individual's relationship with this defense mechanism and strengthen the ego's capacities for managing impulses and anxiety.

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In psychodynamic approaches, particularly Ego Psychology, one of the most important ways to resolve internal conflicts is to emphasize strengthening ego functions such as reality testing, judgment, and impulse control (Wallerstein, 2002). One mechanism through which Paradoxical Psychotherapy exerts its influence is also the strengthening of the ego (Besharat, 2023). In the context of trichotillomania, ego strengthening through paradoxical psychotherapy's mechanisms of action is achieved as follows:

Symptom Artificialization: When the individual consciously and voluntarily engages in hair pulling within the framework of paradoxical psychotherapy like PTC model, the behavior is transferred from the unconscious to the conscious level. This process causes hair pulling to cease functioning as an unconscious defense mechanism and instead becomes a chosen task under the ego's control. Making the symptom artificial is a way of restoring the individual's sense of agency and reduces the intensity of the internal compulsion. Furthermore, when an individual with trichotillomania is instructed to deliberately pull their hair at specific times (e.g., three times a day for 5 minutes each), several important changes occur. Normally, hair-pulling behavior typically occurs in response to feelings of anxiety, stress, or tension, and the individual feels a lack of control. This very lack of control increases anxiety and consequently reinforces the behavior (Everett et al., 2020; Grant, 2019). By implementing a specific schedule, the individual gains voluntary control over the behavior for the first time. They no longer react to sudden, uncontrollable impulses but act according to a plan (Asayesh & Parsakia, 2025). Scheduled timing increases awareness of the behavior. The individual makes conscious decisions about their behavior, which is itself a crucial step towards control (Himle et al., 2018).

Breaking the Symptom-Anxiety Link: A key mechanism of Paradoxical Psychotherapy is the reduction of performance anxiety. In traditional methods, the individual constantly tries to refrain from hair pulling, an effort which itself increases tension and ultimately leads to failure. In Paradoxical Psychotherapy, because the individual has "permission" and even a "directive" to pull their hair, the anxiety associated with inhibition is reduced (Andreeva, 2024; Frankl, 1960; Jansson-Fröjmark et al., 2022). Furthermore, under normal circumstances, hair pulling serves a tension-relieving and anxiety-reducing function for the individual, which is why it becomes entrenched in the anxiety–hair-pulling cycle. However, when the individual engages in hair pulling as a deliberate, paradoxical task, the association between anxiety and the symptom is gradually weakened. In other words, hair pulling is no longer perceived as the primary strategy for reducing anxiety, and the individual gets the opportunity to experience healthier emotion regulation strategies.

Changing the Meaning of the Symptom: Paradoxical Psychotherapy alters the symbolic meaning of the behavior. Hair pulling, which was previously a sign of weakness, lack of control, and shame, now becomes part of the therapeutic process and is under the individual's control. This change in meaning leads to the emotional neutralization of the behavior (Asayesh & Parsakia, 2025). When hair pulling is redefined as a therapeutic task, its psychological meaning also changes. The symptom is no longer experienced as an uncontrollable impulse but becomes an opportunity to practice control and awareness. From a psychodynamic perspective, this change in meaning is equivalent to a "change in the defensive function of the symptom"; that is, what was previously an unconscious defense is now transformed into a tool for ego strength.

Ultimately, when the hair-pulling behavior shifts from being automatic and unconscious to being voluntary and scheduled, its natural frequency decreases. The individual realizes that they do not need to pull their hair at all times and for every reason (Bottesi et al., 2020; Himle et al., 2018). Consequently, anxiety is reduced, and ego strength enables the ego to establish a better balance between the id and the superego (Lapsley & Stey, 2012). This ability allows for a better understanding of external realities and a more appropriate gratification of internal needs. Therefore, the use of hair pulling as a defense mechanism against anxiety is resolved, and therapeutic change is achieved.

5. Conclusion

The findings of this study indicate that Paradoxical Psychotherapy is an effective and targeted therapeutic method for reducing symptoms of trichotillomania. The results of statistical analyses demonstrated a significant reduction in hair-pulling behavior throughout the treatment and during the two-month follow-up, indicating the rapid and sustained effect of the intervention. From a psychodynamic perspective, paradoxical psychotherapy enhances the ability to manage anxiety and internal conflicts by restructuring the individual's relationship with defense mechanisms and strengthening ego functions. Furthermore, many individuals with trichotillomania exhibit resistance to direct therapies that demand immediate cessation of the

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behavior. Paradoxical Psychotherapy circumvents this resistance by permitting and even encouraging the behavior instead of prohibiting it (Asayesh & Parsakia, 2025; Hameiri et al., 2016). Therefore, this method can be recommended as a short-term and efficient option for clinical interventions in trichotillomania, paving the way for longer-term research and investigation of its effects on quality of life and other psychological outcomes.

Despite providing significant evidence regarding the effectiveness of Paradoxical Psychotherapy for trichotillomania, the present study has several limitations that should be considered when interpreting the results. First, the study lacked a control group, thereby limiting the ability to compare the intervention's effects with natural conditions or other therapeutic methods and reducing the generalizability of the findings. Furthermore, the limited sample size and focus on Iranian women restrict the generalizability of the results to broader populations, including men, adolescents, or other cultures. The use of self-report measures like the MGH-HS and TOSRS may introduce subjective measurement error. Additionally, the follow-up period was only two months post-intervention, and the long-term effects of the treatment remain unknown.

Based on the findings of the present study, it is recommended that future research employ more rigorous experimental designs, including control groups and larger sample sizes, to enhance the generalizability of the results. Furthermore, conducting long-term follow-ups (e.g., 6-month or 12-month) is essential to determine the sustainability of paradoxical psychotherapy's therapeutic effects. Investigating the efficacy of this approach in more diverse populations, including men, adolescents, and different cultural groups, could also enrich the research literature. Additionally, comparing paradoxical psychotherapy with other established treatments, such as CBT or ACT, could lead to a better understanding of this approach's place in the treatment of trichotillomania. From a practical standpoint, it is suggested that clinical therapists utilize Paradoxical Psychotherapy as a short-term, targeted intervention for reducing trichotillomania symptoms, particularly in cases where clients do not respond adequately to traditional therapies.

Authors' Contributions

Authors equally contributed to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. The ethical approval code for this research is IR.UT.PSYEDU.REC.1403.125. A public electronic version of the approval is accessible via the following link: https://ethics.research.ac.ir/IR.UT.PSYEDU.REC.1403.125

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