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The Effectiveness of Transdiagnostic Therapy on Sexual Distress, Sexual Self-Disclosure, and Sexual Quality of Life in Women with Severe Methamphetamine Use Disorder

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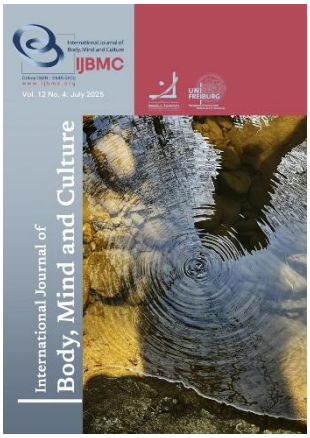

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ABSTRACT

Objective: Women with methamphetamine use disorder often experience significant disruptions in sexual functioning, including elevated sexual distress, poor self-disclosure in intimate relationships, and reduced sexual quality of life. Transdiagnostic therapy, which targets underlying emotional and cognitive vulnerabilities, may offer an effective approach for improving these outcomes.

Methods and Materials: This quasi-experimental study employed a pretest-posttest control group design. Twenty-four women diagnosed with severe methamphetamine use disorder were selected using purposive sampling and randomly assigned to an experimental group (n = 12) and a control group (n = 12). The intervention group received 12 sessions of transdiagnostic therapy targeting emotional regulation, cognitive restructuring, and interpersonal processing. Data were collected using the Revised Female Sexual Distress Scale (FSDS-R), Hulbert Index of Sexual Assertiveness (HISA), and Sexual Quality of Life Questionnaire (SQLQ). Multivariate analysis of covariance (MANCOVA) and ANCOVA were used to assess treatment effects.

Findings: After controlling for pretest scores, the intervention group demonstrated statistically significant improvements compared to the control group in all measured outcomes: sexual distress ($F= 10.65$, $p< .01$, $\eta^2 = 0.411$), sexual self-disclosure ($F= 12.20$, $p< .01$, $\eta^2 = 0.446$), and sexual quality of life ($F= 13.90$, $p< .001$, $\eta^2 = 0.481$). These findings indicate large effect sizes across all domains.

Conclusion: Transdiagnostic therapy is effective in reducing sexual distress and enhancing sexual self-disclosure and quality of life among women with methamphetamine dependency. Integrating this approach into addiction treatment may offer significant benefits in addressing the sexual and emotional health of this population.

Keywords: Transdiagnostic therapy, sexual distress, self-disclosure, quality of life, women, methamphetamine.

Introduction

In Iranian society, methamphetamine dependence is also considered an emerging public health issue. According to the United Nations Office on Drugs and Crime (UNODC), Iran ranks fifth globally among countries with the highest amphetamine use. In a review of studies and reports related to methamphetamine

dependence in Iran from 2005 to 2017, Elm-Mahrajardi and colleagues found that the prevalence of methamphetamine dependence increased from 3.6% among both sexes in 2007 to 3.9% among men in 2014 and 5.89% among women between 2015 and 2016. The prevalence was found to be higher among female patients than their male counterparts (Yousefi et al., 2020).

Although certain social harms have existed throughout human history, industrialization and shifts in lifestyle have led to the intensification of some of these problems. Substance use disorder has now become a significant global concern, affecting nearly every country in some capacity (Stevens et al., 2014). Today, substance use constitutes a major medical, social, economic, and cultural issue. Despite social disapproval, individuals across various socioeconomic backgrounds are increasingly affected (Siam, 2007). Addiction is, in essence, a chronic and relapsing disease influenced by genetic, psychological, social, and environmental factors that interact to initiate and sustain this condition. Substance dependence inhibits personal growth in numerous ways and devastates individual and social life. The damaging individual, familial, social, moral, spiritual, and cultural consequences of substance abuse, dependence, and addiction have prompted individuals, families, and policymakers to pursue prevention and treatment strategies (Farnam, 2013).

Some individuals, to escape psychological pressures, resort to denial and engage in risky behaviors, such as substance use and injection drug use. Inability to cope with emotional challenges often leads addicted individuals to engage in high-risk behaviors (Loree et al., 2015).

Drug addiction, as a bio-psycho-social phenomenon, is one of the most tragic tragedies of modern humanity, bearing highly adverse economic, social, and cultural consequences and pushing society toward decline. It represents a chronic toxic state that necessitates continued use and results in psychological and/or physical dependence, leading to serious personal and societal harm. An addict is defined as a person whose prolonged drug use leads to acquired tolerance, reducing the drug's effectiveness over time. In the United States, the reported rates of substance use—including tobacco, alcohol, and other drugs—are 30.3%, 47.2%, and 7.5%, respectively. In Iran, official statistics estimate two million drug users, while unofficial figures place that number at around three million. According to the Ministry of Health, the ratio of addicted women to men is 1:8, with the most recent report from the Drug Control Headquarters estimating around 140,000 addicted women in the country (Yazdi-Feyzabadi et al., 2019).

Symptoms of drug use include tremors, loss of appetite, indigestion, hand tremors, memory loss, seizures, fainting, sexual dysfunction, poor concentration, sleep disorders, aggression, excessive sweating, and night terrors (Gaudiano et al., 2010). One known effect of narcotics is delayed ejaculation, likely due to the inhibitory effects of opioids on the locus coeruleus in the brainstem and reduced norepinephrine release. Initially, this delay may extend the duration of intercourse. A lack of knowledge about the sexual response cycle and poor sexual techniques often leads to dissatisfaction among couples. Awareness of normal sexual functioning and its disorders is critical to enhancing sexual quality of life (Stotts et al., 2012).

Sexual life is a multidimensional phenomenon influenced by biological, cultural, social, and psychological factors. A realistic view of sexual health is essential, as sexual problems can negatively affect various aspects of personal and social life. Female sexual dysfunction can occur at any stage of life or suddenly appear after a period of normal functioning. Therefore, measuring sexual quality of life is vital for assessing both short-term and long-term outcomes related to sexual issues (Manbeck et al., 2020).

Sexual quality of life is a critical component of overall quality of life for women and is defined as an individual's assessment of the positive and negative aspects of their sexual relationships and their response to this assessment (Lau & Chan, 2018; Stanley et al., 2020). In fact, sexual quality of life serves as a means of evaluating the link between sexual problems and overall quality of life (Shimkowski & Ledbetter, 2018). It is one of the core issues in sexual and reproductive health and, like general quality of life—defined as a person's perception of their position in life in the context of culture, values, goals, expectations, standards, and priorities—is highly subjective and rooted in personal perception. There is now broad consensus that sexual quality of life is closely interwoven with general life satisfaction and well-being. Low sexual quality of life can be a visible indicator of an

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individual's overall health and quality of life in society (Dan, 2020).

Studies Almunahi, (2018); Bahrami et al., (2013) have shown that one of the effects of narcotics is delayed ejaculation, likely due to the inhibitory properties of opioids on the locus coeruleus in the brainstem and reduced norepinephrine release. Assertiveness—defined as "the ability to express one's feelings, thoughts, and beliefs and to defend one's rights in a rational way"—has three dimensions: the ability to express emotions; the ability to clearly state beliefs and make firm decisions; and the capacity to stand up for oneself without allowing others to exploit personal weaknesses.

Assertive individuals are not shy or withdrawn. They can clearly and directly express their emotions without aggression or hostility. For many, expressing emotions—especially love and affection—is exceedingly difficult. Yet assertiveness is closely tied to love, understanding, trust, and empathy (Stanley et al., 2020). Healthy couples usually develop trust and express emotions within six weeks (Stanley et al., 2020). Talking about emotional and sexual needs is one of the best ways for partners to understand each other's desires and improve sexual communication. Conversely, failing to express emotions often leads to prolonged sexual problems (Gheysari & Karimian, 2013).

Although delayed ejaculation due to initial drug use may prolong intercourse, poor sexual knowledge and technique often lead to dissatisfaction. Unfortunately, it is rare for couples to seek professional counseling for sexual issues, and some even mistakenly view opium use as a solution. Long-term drug abuse results in reduced sexual desire (sexual distress) and even sexual dysfunction. Studies show that about 40% of women in the U.S. and U.K. experience female sexual dysfunction. A national sample of 31,000 women in the U.S. confirmed the prevalence of sexual problems. According to the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, 5th edition), sexual dysfunction refers to significant distress or impairment lasting at least six months (excluding cases caused by substance use or medication) and is categorized into three types: sexual dysfunctions, sexual dissatisfaction (distress), and sexual deviations. Specific sexual dysfunctions include male hypoactive sexual desire disorder, female sexual interest/arousal disorder, erectile dysfunction, premature ejaculation, delayed ejaculation, female orgasmic disorder, genito-pelvic pain/penetration disorder, and substance/medication-induced sexual dysfunction (Yazdi-Feyzabadi et al., 2019).

Therefore, it is essential to provide public education regarding drug use for sexual satisfaction and its associated consequences. One such educational strategy is transdiagnostic therapy (Hasanvand et al., 2024). This model is based on theoretical and empirical insights into common emotional disorder mechanisms and teaches individuals how to confront and appropriately respond to unpleasant emotions (Sauer-Zavala et al., 2017). Transdiagnostic therapy emphasizes emotional regulation as a core cognitive-behavioral process in emotional disorders and has strong theoretical and empirical support. It is among the effective methods for improving psychological characteristics (Sloan et al., 2017). However, no known study has examined the effectiveness of transdiagnostic therapy on sexual distress, sexual assertiveness, and sexual quality of life among women with severe methamphetamine use disorder.

It is noteworthy that the current researcher found no prior study investigating the effect of transdiagnostic therapy on sexual distress, sexual assertiveness, and sexual quality of life in this population. Accordingly, due to the urgent need for interventions targeting psychological well-being in women with severe methamphetamine use disorder, the present study aimed to evaluate the effectiveness of transdiagnostic therapy on sexual distress, sexual assertiveness, and sexual quality of life in this population to determine whether such intervention could yield significant psychological benefits.

Methods and Materials

Research Design

The present study is applied in nature and follows a quasi-experimental pretest-posttest design with a control group. The statistical population comprised all women diagnosed with severe methamphetamine use disorder in Tehran who sought psychological treatment at the Behbood Gostaran Hamgam Addiction Rehabilitation Center in 2024. Based on the inclusion criteria, 28 participants were purposefully selected using non-random purposive sampling. They were then

randomly assigned into two groups: 14 in the experimental group and 14 in the control group.

The experimental group participated in 12 individual sessions (each lasting 60 minutes) of transdiagnostic therapy. After accounting for dropouts, 12 participants successfully completed the intervention. The control group received no treatment during this period. To ensure equal group sizes, an equivalent number of participants were randomly removed from the control group to match the dropout rate of the experimental group.

Inclusion criteria included: informed consent, minimum literacy (ability to read and write), diagnosis of severe methamphetamine use disorder confirmed by a psychologist or psychiatrist, and absence of concurrent pharmacological treatment.

Exclusion criteria were: unwillingness to continue participation, anticipated psychological harm to participants, or absence from more than three therapy sessions.

Instruments

Sexual Distress Scale: The Revised Female Sexual Distress Scale (R-FSDS), developed by Derogatis and colleagues, consists of 13 items measuring distress related to sexual issues. It uses a 5-point Likert scale ranging from 0 to 4. The total score ranges from 0 to 52, with higher scores indicating greater sexual distress. The scale demonstrates good internal consistency ($\alpha = 0.86$) and test-retest reliability ($r = 0.74$). In Iran, Ghasemi reported internal consistency of 0.94 and test-retest reliability of 0.89. Discriminant validity has been confirmed by differentiating between normal women and those with sexual dysfunction, and it shows appropriate divergent validity with other measures of sexual function.

Sexual Assertiveness Questionnaire: The Hulbert Index of Sexual Assertiveness (HISA), developed by Hulbert, includes 25 items rated on a 5-point Likert scale. It assesses participants' sexual assertiveness and willingness to express sexual desires. The questionnaire has been widely used in clinical and research contexts. Hurlbert, (1991) reported a Cronbach's alpha of 0.92, and factor analysis confirmed its unidimensional structure. In Iran, Gheysari and Karimian reported an alpha of 0.83. Total scores are calculated by summing responses across the 25 items. Items 1, 3, 5, 7, 8, 9, 10, 12, 13, 17, 18, 19, and 20 are reverse-scored. Score interpretation: 0–25: low assertiveness, 25–50: moderate assertiveness and 100: high assertiveness.

Sexual Quality of Life Questionnaire for Women: Developed by Symonds and colleagues, this 18-item questionnaire assesses women's sexual quality of life using a six-point Likert scale (ranging from 1 "strongly disagree" to 6 "strongly agree"). Items include statements such as "When I think about my sex life, I consider it an enjoyable part of my life." The total score ranges from 18 to 108, with higher scores indicating better sexual quality of life. In Iran, Roushan Chelsee and colleagues confirmed the instrument's content, criterion, and face validity.

Procedure

Following the selection of the target population and sample size, and upon obtaining ethical approval from the university's research office (Ethics Code: IR.IAU.ARAK.REC.1403.201), participants were administered the study instruments to assess pre-intervention measures. After the 12-session treatment for the experimental group, all participants completed the same instruments in the post-test phase. Collected data were scored and analyzed using SPSS software.

Transdiagnostic Treatment Protocol

The unified transdiagnostic treatment consists of eight modules, five of which form the core of the intervention:

1. Present-focused emotional awareness
2. Cognitive flexibility
3. Emotional avoidance and emotion-driven behaviors
4. Awareness and tolerance of physical sensations
5. Emotion-focused and situational exposure

In addition to the core modules, three auxiliary components are included:

- An introductory module that teaches the nature of emotions and provides a framework for understanding emotional experiences
- A motivation-enhancing module to increase participation and readiness for change
- A closing module to review treatment progress and introduce relapse prevention strategies

In this study, the intervention was delivered through 12 individual sessions, each lasting approximately 60 minutes.

Data Analysis

Since this study examined the effectiveness of transdiagnostic therapy on sexual distress, sexual assertiveness, and sexual quality of life in women with severe methamphetamine use disorder, both descriptive statistics (mean, variance, and standard deviation) and inferential statistics were applied. Specifically, Multivariate Analysis of Covariance (MANCOVA) and Univariate Analysis of Covariance (ANCOVA) were used as suitable parametric methods for analyzing the treatment effects.

Findings and Results

Table 1

Descriptive Statistics for the Sexual Distress Scale among Women with Severe Methamphetamine Use Disorder

Scale	Test Phase	Group	N	Mean	Std. Deviation
Sexual Distress	Pre-test	Experimental	12	30.75	6.269
		Control	12	30.67	5.742
		Total	24	30.71	5.879
	Post-test	Experimental	12	28.83	5.937
		Control	12	30.17	5.937
		Total	24	29.50	5.846
Sexual Assertiveness	Pre-test	Experimental	12	39.92	9.120
		Control	12	39.67	9.782
		Total	24	39.79	9.250
	Post-test	Experimental	12	42.58	7.763
		Control	12	39.17	7.756
		Total	24	40.88	7.787
Sexual Quality of Life	Pre-test	Experimental	12	40.83	12.503
		Control	12	40.92	9.249
		Total	24	40.88	10.755
	Post-test	Experimental	12	43.83	12.655
		Control	12	40.25	9.612
		Total	24	42.04	11.141

Table 2

Descriptive Comparison of Post-test Scores for Transdiagnostic Therapy on Sexual Distress, Sexual Assertiveness, and Sexual Quality of Life

Scale	Group	Mean	Std. Deviation	N
Sexual Distress	Experimental Group	28.83	5.937	12
	Control Group	30.17	5.937	12
	Total	29.50	5.846	24
Sexual Assertiveness	Experimental Group	42.58	7.763	12
	Control Group	39.17	7.756	12
	Total	40.88	7.787	24
Sexual Quality of Life	Experimental Group	43.83	12.655	12
	Control Group	40.25	9.612	12
	Total	42.04	11.141	24

Descriptive results in Table 2 indicate a decrease in sexual distress and increase in sexual assertiveness and sexual quality of life in the experimental group receiving transdiagnostic therapy. To ensure homogeneity of covariance matrices and variances for multivariate analysis, Box's M test was applied.

Table 3

Results of Box's M Test for Covariance Homogeneity

Scales Analyzed	Statistic	Value	Test Result
Transdiagnostic therapy on all three outcomes	Box's M	16.743	Covariance matrices are homogenous
	F	1.121	
	df1	12	
	df2	1304.526	
	Sig.	.396	$p > 0.05 \rightarrow$ Assumption of homogeneity met

Results of Box's M ($p = .396 > .05$) indicate that the assumption of homogeneity of covariance is upheld. To assess the homogeneity of individual variances, Levene's test was conducted.

Table 4

Levene's Test for Equality of Variances

Scale	F	df1	df2	p-value
Sexual Distress	1.428	1	11	.221
Sexual Assertiveness	1.451	1	11	.758
Sexual Quality of Life	1.113	1	11	.351

Results confirm that the assumption of equal variances is satisfied for all three dependent variables ($p > .05$).

Table 5

One-Way ANCOVA Results for Post-test Scores

Source	Scale	SS	df	MS	F	p	Eta²
Transdiagnostic Intervention	Sexual Distress	26.151	1	26.151	5.556	.009	.226
	Sexual Assertiveness	62.314	1	62.314	13.339	.002	.412
	Sexual Quality of Life	80.971	1	80.971	15.455	.001	.616

The ANCOVA results indicate that transdiagnostic therapy had a statistically significant effect on all three variables in the experimental group, with effect sizes (η^2) indicating moderate to large impact: Sexual distress: 22.6%, Sexual assertiveness: 41.2% and Sexual quality of life: 61.6%

Table 6

Tukey's Post Hoc Test for Mean Differences

Scale	Group (i vs. j)	Mean (i)	Mean Diff (i-j)	Std. Error	p-value	Significance
Sexual Distress	Experimental vs. Control	28.123	-2.088	0.886	.009	Significant
Sexual Assertiveness	Experimental vs. Control	42.487	3.223	0.883	.002	Significant
Sexual Quality of Life	Experimental vs. Control	43.879	3.674	0.666	.001	Significant

The Tukey post hoc test confirmed that the mean differences between the experimental and control groups were statistically significant across all three outcomes, favoring the experimental group.

Discussion and Conclusion

The findings of this study demonstrated that transdiagnostic therapy had a significant effect on sexual distress, sexual assertiveness, and sexual quality of life among women with severe methamphetamine use disorder. The overall impact of the intervention on these three scales was estimated to exceed 82%. These results are consistent with the findings of (Salasi et al., 2023; Daiwile et al., 2022), and Mirabi et al., (2020), all of whom observed the effectiveness of transdiagnostic interventions in improving psychological and sexual functioning in this population.

Specifically, transdiagnostic therapy significantly reduced sexual distress, with its effect on this variable estimated at over 22%. In terms of sexual assertiveness, the intervention showed a significant improvement, with an estimated effect size of more than 41%. This aligns with the study by Pirnia et al., (2015), which compared sexual behaviors in methamphetamine-using and non-using homosexual men. Their results indicated that methamphetamine users scored significantly higher on dimensions such as sexual thoughts, hypersexuality, and risky sexual behaviors.

Regarding the secondary hypothesis, the findings confirmed that transdiagnostic therapy significantly improved sexual quality of life among the participants. The estimated effect size on this measure exceeded 61%. These results are in line with the research of Daiwile et al., (2022), which emphasized the gender-specific impacts of methamphetamine use, including its influence on behavioral, cognitive, and neurochemical processes.

They also align with the findings of Mohammadi and Najmabadi & Sharifi, (2019), which showed that structured interventions can mitigate sexual dysfunction and improve sexual well-being in addicted women.

Thus, the current study further validates the effectiveness of transdiagnostic therapy in improving sexual quality of life among women with severe methamphetamine use disorder, with an estimated effect size above 61%. The findings are consistent with prior studies and contribute to a growing body of evidence supporting emotion-focused, transdiagnostic approaches in clinical settings.

Like all empirical research, the current study encountered certain limitations, which should be taken into consideration when interpreting and generalizing the results: Difficulty in recruitment: Many women with severe methamphetamine use disorder were reluctant to participate in the study, which restricted the sampling pool. Limited access to family members: Difficulty in reaching out to family members of participants and general disinterest among potential participants posed further barriers to sample homogeneity and motivation. Lack of precise clinical information: The researcher had no access to detailed physical or mental health records of participants, especially those unwilling to provide information or participate fully. Limited time for literature review: Time constraints restricted a comprehensive collection of previous studies, which could have enriched the theoretical framework. Participant attrition: Although initial agreement was obtained from many participants, some failed to follow through with their participation, affecting consistency and generalizability.

These constraints, particularly the low participation and follow-up adherence, as well as time and resource limitations, indicate that the generalization of the findings should be done with caution.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. Ethical considerations in this study were that participation was entirely optional.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contribute to this study.

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