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Acceptance and Commitment Therapy: A Path Towards Enhanced Resilience and Reduced Rumination in Depressed Individuals

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Abstract

Introduction: Depression negatively impacts quality of life and involves cognitive avoidance, reduced resilience, and rumination. This study evaluates Acceptance and Commitment Therapy (ACT) as a potential effective intervention to address these cognitive and emotional patterns in individuals with depression.

Methods: This study employed a quasi-experimental pre-test-post-test control group design with 40 female patients diagnosed with depression recruited from counseling centers in Ahvaz, Iran, in 2023. Participants were assigned to either an experimental group, which received eight weekly 90-minute sessions of ACT, or a control group that received no intervention. The ACT intervention focused on acceptance, mindfulness, values clarification, and committed action. Outcome measures included the Beck Depression Inventory (BDI) and the Connor-Davidson Resilience Scale (CD-RISC). All participants provided informed consent prior to participation. Data were analyzed using analysis of covariance (ANCOVA) with SPSS version 25.

Results: Results of the study demonstrated that ACT significantly decreased cognitive avoidance and rumination, while simultaneously increasing resilience and self-differentiation in the experimental group compared to the control group ($P<0.001$).

Conclusion: This study demonstrates the effectiveness of ACT in addressing cognitive and emotional patterns associated with depression, including cognitive avoidance, diminished resilience, and rumination. By providing strategies for managing negative thoughts and behaviors, ACT shows promise as a beneficial intervention for improving the mental health and well-being of women with depression. These findings have important implications for clinical practice, indicating that ACT can be a valuable tool for clinicians seeking to address the core symptoms and underlying processes of depression in women.

Keywords: Acceptance and commitment therapy, Resilience, Rumination, Depression

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Introduction

Depression is a significant global health concern, affecting an estimated 3.8% of the world's population [1], with recent epidemiological studies indicating an increasing prevalence across the lifespan [2]. In severe cases, depression can lead to suicidal ideation and suicide[3]. Notably, research consistently shows that women experience depression at nearly twice the rate of men, a disparity likely influenced by a complex interplay of biological, psychological, and social factors such as hormonal fluctuations, societal expectations, and experiences of gender-based violence [4].

This gender disparity highlights the importance of understanding the specific psychological processes that contribute to the experience and maintenance of depression, particularly in women. Among these processes, rumination, defined as persistent engagement with a thought or topic [5], plays a crucial role. Rumination involves repetitive, passive thoughts focused on the causes, consequences, and symptoms of problems [6], hindering adaptive problem-solving and exacerbating negative thoughts in depressed individuals. It can form the cognitive underpinnings of depression, fostering

hopelessness and negative self-evaluations [7], thereby impacting mood and undermining motivation.

Cognitive avoidance is another key factor associated with depression. It refers to mental strategies individuals employ to alter their thoughts, particularly during social interactions [8]. For instance, Howe-Davies et al. [9] described how individuals with social anxiety engage in cognitive processing after unpleasant social experiences, using avoidance strategies to escape distressing thoughts about their social performance. This demonstrates how cognitive avoidance, as a maladaptive coping mechanism, can contribute to the maintenance of depressive symptoms[10].

In contrast to these maladaptive processes, resilience represents a protective factor against depression [11]. Sisto et al. [12] define resilience as the capacity to effectively navigate and adapt to life stressors, reflecting an individual's ability to maintain well-being in the face of adversity. It encompasses the ability to withstand harm or threatening conditions [13]. A lack of resilience can diminish hope during challenging experiences, potentially leading to feelings of helplessness and increased vulnerability to difficult circumstances [14]. Therefore, enhancing resilience is a crucial target in addressing depression.

Furthermore, the concept of self-differentiation, introduced by Bowen, is relevant to understanding depressive experiences [15, 16]. Self-differentiation refers to achieving emotional independence, enabling individuals to make rational and autonomous decisions in emotional and stressful situations without being overwhelmed by the emotional atmosphere surrounding them [17]. Differentiation can be examined at both intrapersonal (I-position and emotional reactivity) and interpersonal levels (fusion with others and emotional cutoff)[18]. Individuals with low differentiation experience a significant intertwining of intellect and emotions, making them susceptible to the influence of others and prone to dysfunction, whereas highly differentiated individuals maintain an "I-position" in relationships, demonstrate less emotional cutoff, and experience fewer interpersonal conflicts [19, 20].

Acceptance and Commitment Therapy (ACT) is an empirically-based psychological intervention that can help improve the psychological symptoms of depression [21]. Rooted in pragmatism and based on Relational Frame Theory [22], ACT utilizes six core processes to promote psychological flexibility: acceptance, defusion, self as context, contact with the present moment, values, and committed action [23]. This therapy focuses on increasing psychological acceptance of mental experiences and decreasing ineffective control attempts, cultivating motivation for committed action directed toward specific goals and values [24]. Research has demonstrated the effectiveness of ACT in reducing anxiety and depression associated with experiential avoidance [25] and hypochondria [26]. While research has explored the effectiveness of ACT on various psychological issues, further investigation is needed to specifically examine its impact on the interplay of cognitive avoidance, resilience, self-differentiation, and rumination in individuals with depression. Therefore, the aim of this study was to determine the effectiveness of ACT on these four constructs—cognitive avoidance, resilience, self-differentiation, and rumination—in individuals with clinical symptoms of depression.

Methods

Design and participants

This study employed a quasi-experimental pre-test-post-test control group design. The study population comprised all female patients diagnosed with depressive disorder who sought treatment at psychological counseling centers in Ahvaz between November 2023 and February 2024. Participants were recruited using a convenience sampling method. The final sample consisted of 40 women with depressive disorder who were randomly assigned to either the experimental or control group (20 participants in each group). Inclusion criteria were a Beck Depression Inventory (BDI) score between 20 and 28 (indicating moderate to severe depression), at least a high school education, an age range of 20 to 40 years, and provision of informed consent. Exclusion criteria included missing more than two intervention sessions, unwillingness to cooperate with the researcher, current substance abuse (including alcohol and illicit drugs), severe medical conditions that could affect mental health (e.g., uncontrolled thyroid disorders, neurological conditions, or chronic pain conditions requiring opioid medication), and any current engagement in other forms of psychotherapy. Data were collected via pre- and post-intervention assessments using the BDI and other relevant measures (as described in the Measures section). An a priori power analysis was conducted using G*Power software to ensure sufficient statistical power to detect a medium effect size (f = 0.96). The analysis employed an alpha level of 0.05 and a desired power of 0.90, resulting in a required sample size of 40 participants. This target sample size was met in the study. Prior to participation, all participants provided written informed consent. Participants were given ample opportunity to ask questions and were assured that their participation was completely voluntary.

Measures

The Cognitive Avoidance Questionnaire (CAQ)

The Cognitive Avoidance Questionnaire (CAQ) is a 25-item tool developed and validated by Sexton and Dugas[27].

It features five subscales aimed at evaluating different cognitive avoidance strategies, including rumination on anxious thoughts, avoidance of specific situations, transforming mental imagery into verbal thoughts, replacing worrying thoughts with positive ones, and tendencies toward distractibility. Respondents assess each item using a 5-point Likert scale, where 1 signifies "completely incorrect" and 5 means "completely correct." According to Mohammadian et al. [28], the CAQ exhibits a Cronbach's alpha coefficient of 0.79, demonstrating strong internal consistency for the instrument.

Resilience Scale

Connor and Davidson's 25-item Resilience Scale (CD-RISC) [29] assesses an individual's capacity to handle stress and adversity. This multidimensional tool comprises five subscales: personal competence, self-reliance, positive acceptance, safe relationships, and spiritual influences. Participants rate each item on a 5-point Likert scale (0 = completely false to 4 = always true). The scale yields a total score (0-100), with higher scores indicating greater resilience and lower scores suggesting less resilience. The average score is approximately 52. Previous research has established the CD-RISC's reliability, with a Cronbach's alpha of 0.77 [30].

The Ruminative Response Scale (RRS)

The Ruminative Response Scale (RRS) is a self-report tool with 22 items that gauges how people react to negative feelings [31]. It divides rumination into two types: reflective pondering and brooding. Participants rate each item on a 4-point Likert scale (never to often). Higher total scores (22-88) signify greater rumination. Aghebati et al. [32] found the RRS to be reliable, with a Cronbach's alpha of 0.90.

The Differentiation of Self Inventory (DSI)

The Differentiation of Self Inventory (DSI) is a 45-item self-report tool that measures individual levels of self-differentiation, as developed by Skowron and Friedlander[33]. Participants rate items on a 6-point Likert scale (1-6) across four subscales: affective congruence, self-evaluation, emotional avoidance, and emotional reactivity. A total score is calculated from all items. Previous research supports the DSI's reliability, with a test-retest coefficient of 0.84 [34]. In this study, the DSI demonstrated acceptable internal consistency (Cronbach's alpha = 0.83).

Intervention

Participants in the experimental group received approximately one month of ACT training, consisting of eight 90-minute sessions conducted twice weekly. The control group received no intervention during the study period; however, to mitigate potential threats to internal validity, the control group was offered the ACT intervention upon completion of the study. The ACT intervention was delivered by a therapist with specialized training in ACT. To ensure treatment fidelity and adherence to the ACT protocol, the therapist received weekly supervision from a supervisor with expertise in ACT. These supervision sessions focused on reviewing audio or video recordings of the sessions to assess adherence to the ACT protocol and address any questions or challenges encountered by the therapist. A summary of the ACT session content is presented in Table 1.

Table 1. A summary of the ACT sessions

Sessions	Content
1	The therapist introduced themselves and group members, explaining the rationale and goals of the group. Group rules were established, including confidentiality, respect for all members, punctual attendance, active participation, and a commitment to attend each session. Pre-treatment assessments were administered.
2	The session began with a general overview of the therapy process. Participants were asked to discuss their presenting problems and the areas of life where anxiety and fear caused the most distress. They were also asked to identify the most significant stressors experienced in the past month.
3	The session started with a mindfulness exercise. The therapist explored participants' avoidance behaviors and their associated costs by asking, "What do you do when you feel anxious?" Using the metaphor of a child in a hole, the therapist demonstrated the futility of struggling against anxiety and the need for a different approach.
4	The session began with the "acceptance of thoughts and feelings" exercise, followed by a review of daily homework. Using the metaphor of a tug-of-war with an anxiety monster, the therapist highlighted the ineffectiveness of previous coping strategies. Participants were guided to identify their core values by asking questions such as, "What matters most in your life?" and "If anxiety were not a problem, what would you be doing?"
5	Following a review of homework, the therapist explained the nature of acceptance and mindfulness. Participants then engaged in an acceptance of anxiety exercise. They were encouraged to discuss their experiences, questions, and concerns. The session concluded with a discussion of factors influencing the "urge to control."
6	The session began with a mindfulness exercise. The therapist introduced the concept of the observer self (content) versus the observing self (context) using a simple analogy and the "chessboard" exercise. Participants reviewed their experiences from the previous week and revisited their core values. The therapist identified behaviors that hindered progress toward these values. Participants were given a "life compass" worksheet and guided to complete it based on their identified values.
7	The session started with a mindfulness exercise. Participants identified behaviors used to control anxiety and the associated short-term and long-term costs. The therapist introduced the concept of "emotional willingness" as a form of acceptance. The goals of facing intense emotions were explained. The "bus driver" metaphor was used to illustrate how to respond or not respond to intense thoughts and feelings. The "living life to the fullest" exercise was conducted.
8	The therapist reviewed participants' homework related to accepting anxiety and discussed their experiences. Participants shared examples of their behaviors for managing thoughts, sensations, and emotions. The therapist facilitated the identification of values-based activities using the "life compass" worksheet and a hierarchy of behaviors. Commitment to action was reinforced through a values-based activity worksheet. The therapist provided relapse prevention strategies. The sessions concluded with a summary and post-treatment assessment.

Statistical analysis

Data analysis was conducted using analysis of covariance through SPSS version 25. The level of significance was set at $\alpha = 0.05$.

Results

The present study included 40 married women diagnosed with clinical depression, with a mean age of 28.45 years (SD=4.63). The average duration of marriage was 3.6 years (SD=1.72). Most participants held university degrees and were of middle socioeconomic status. Means and standard deviations for cognitive avoidance, resilience, self-differentiation, and rumination in women with clinical depression are presented in Table 2. At pre-test, the experimental group exhibited a mean cognitive avoidance score of 102.12 (SD=4.65), while the control group's mean was 109.52 (SD=6.11). Post-test scores revealed a substantial decrease in cognitive avoidance in the experimental group (M=71.67, SD=2.06) compared to the control group (M=108.60, SD=5.92). Similar patterns of mean change were observed for resilience, self-differentiation, and rumination. For example, pre-test resilience scores were 35.17 (SD=5.38) for the experimental group and 31.47 (SD=6.52) for the control group. Post-test resilience scores showed a notable increase in the experimental group (M=68.59, SD=2.26) compared to a relatively stable score in the control group (M=32.52, SD=6.02). Comparable trends were found for self-differentiation and rumination.

Table 2. Means and standard deviations (SD) of cognitive avoidance, resilience, self-differentiation, and rumination in experimental and control groups

Variables	Groups	Experimental group	Control group	P (between-group)
		Mean ± SD	Mean ± SD	
Cognitive avoidance	Pre-test	108.12 ± 4.65	109.52 ± 6.11	0.419
	Post-test	71.67 ± 2.06	108.60 ± 5.92	0.001
Resilience	Pre-test	35.17 ± 5.38	31.47 ± 6.52	0.058
	Post-test	49.59 ± 2.26	32.52 ± 6.02	0.001
Self-differentiation	Pre-test	52.85 ± 5.68	51.67 ± 6.18	0.533
	Post-test	115.68 ± 3.41	52.90 ± 5.79	0.001
Rumination	Pre-test	54.60 ± 4.65	57.80 ± 5.39	0.052
	Post-test	22.37 ± 2.18	58.42 ±5.08	0.001

Levene's test confirmed the homogeneity of variances for cognitive avoidance, resilience, self-differentiation, and rumination, supporting the assumption of homogeneity of variances for the study variables in both the experimental and control groups. The interaction of slopes of regression for cognitive avoidance, resilience, self-differentiation, and rumination with groups confirmed the assumption of homogeneity of regression slopes. Multivariate analysis of covariance results indicated a significant difference between the experimental and control groups on at least one of the dependent variables (cognitive avoidance, resilience, self-differentiation, and rumination) after controlling for the pre-test ($P<0.001$). This implies that, after controlling for the pre-test, there was a difference between the post-test scores of the two groups, indicating the effectiveness of the ACT intervention on at least one of the dependent variables.

One-way analysis of covariance revealed a significant difference between the experimental and control groups in terms of cognitive avoidance ($F=8.68$, $P<0.001$). Similarly, a significant difference was found between the two groups in terms of resilience ($F=10.35$, $P<0.001$) and self-differentiation ($F=16.49$, $P<0.001$). Finally, there was also a significant difference between the experimental and control groups in terms of rumination ($F=11.09$, $P<0.001$) (Table 3).

Table 3. Comparison of post-test scores between experimental and control groups using analysis of covariance

Variables	SS	df	MS	F	P	η^2
Cognitive avoidance	201.32	1	201.32	8.68	0.001	0.86
Resilience	518.70	1	518.70	10.35	0.001	0.71
Self-differentiation	409.81	1	409.81	16.49	0.001	0.81
Rumination	219.13	1	219.13	11.09	0.001	0.74

Discussion

This research aimed to determine the effectiveness of ACT in mitigating cognitive avoidance, fostering resilience, promoting self-differentiation, and lessening rumination among women experiencing clinical depression. This finding aligns with results from previous studies, such as that by Spencer et al. [25], who, in a case-series study using a telehealth platform, found that ACT significantly reduced experiential avoidance, a construct closely related to cognitive avoidance, in individuals with mixed anxiety and depression. This effect can be attributed to ACT's focus on cultivating the skill of observing and becoming aware of negative thoughts and feelings as they arise, rather than teaching strategies to change or suppress them [24]. By providing acceptance techniques and fostering a willingness to experience adversity without attempting to control it, ACT promotes a greater understanding of resilience in the face of life's challenges[25]. Consequently, individuals develop increased confidence in their ability to cope with personal, familial, and social challenges, thereby reducing cognitive avoidance and fear of such challenges.

Results revealed that ACT effectively enhanced resilience among medicated women with clinical symptoms of depression. This finding is consistent with previous research, such as that by Nikrah et al. [35]. This effect can be explained by ACT's primary goal of helping individuals live more meaningful lives by increasing their psychological flexibility. While being present in the moment and acting according to values in context are key components, psychological flexibility in ACT is more accurately defined as the ability to fully contact the present moment without needless defense, as a conscious human being, and to persist in or change behavior in the service of chosen values [28]. It involves six core processes: acceptance, cognitive defusion, being present, self-as-context, values, and committed action, all working together to enhance this flexibility. It can also be described as consciously contacting the present moment fully and without defense, accepting oneself as one is rather than as one claims to be, and persisting in or changing behavior in service of chosen values. This core goal of ACT is achieved through six interconnected processes that foster greater psychological flexibility [22]. Through these processes, ACT helps individuals take responsibility for behavioral changes and adapt their behavior as needed, achieving a balance of situationally appropriate actions. Therefore, the mechanism of action of ACT is mediated by these six core processes, which collectively contribute to increased psychological flexibility.

ACT effectively improved self-differentiation among medicated women with clinical symptoms of depression. This finding aligns with previous research, such as that by Hasannezhad Reskati et al. [36]. This effect of ACT on self-differentiation in women with depression can be explained by the therapy's primary goal of fostering psychological flexibility—the ability to choose the most suitable actions from a range of options, rather than acting solely to avoid distressing thoughts, feelings, memories, or urges [23]. ACT initially focuses on increasing psychological acceptance of mental experiences (thoughts and feelings) while simultaneously reducing control attempts. Clients learn that attempts to avoid or control these unwanted mental experiences are ineffective or even counterproductive, potentially exacerbating them. Instead, these experiences are encouraged to be fully accepted without internal or external attempts at elimination. The second stage involves enhancing present moment awareness, enabling individuals to become conscious of their current mental states, thoughts, and behaviors. The third stage teaches individuals to disengage from these mental experiences (cognitive defusion), allowing them to act independently of them. The fourth stage focuses on reducing excessive focus on self-concept or personal narratives (such as identifying as a "victim"). In the fifth stage, individuals are guided to identify and clarify their core personal values and translate them into specific behavioral goals (values clarification). Finally, ACT cultivates motivation for committed action, which involves activity directed toward identified goals and values, alongside acceptance of mental experiences [22]. These mental experiences can include depressive thoughts, obsessions, trauma-related thoughts, fears, or social anxiety. Therefore, the combination of these factors contributes to an increased capacity for self-differentiation in the face of adverse events.

ACT effectively reduced rumination among medicated women with clinical symptoms of depression. This finding is consistent with previous research, such as that by Alirahmi et al. [37]. This effect can be explained by considering rumination as a maladaptive cognitive pattern characteristic of emotional disorders. Rumination is a response style in which individuals focus on their distress, its causes, and its consequences, engaging in repetitive and recurrent thoughts about the symptoms, causes, and meaning of negative mood states. These thoughts typically revolve around a central theme, intrude into awareness unintentionally, and divert attention from current issues and goals [7]. ACT is based on the premise that individuals constantly seek to change the form or intensity of internal experiences, including negative thoughts and feelings. While such strategies may offer temporary relief, they are paradoxically associated with negative psychological and behavioral consequences in the long term [37]. Intolerance of the potential occurrence of negative future events and worry encourage anxious individuals to ruminate. According to ACT, thoughts and

feelings are not inherently problematic, ineffective, or harmful; rather, their impact depends on the context in which they occur. Thus, the presence of experiential avoidance and cognitive fusion creates the conditions for thoughts and internal experiences to become harmful. In ACT, it is posited that individuals may be so influenced by their thoughts that they perceive them as objective realities, allowing these thoughts to dominate and dictate behavior.

Acceptance, a key component of ACT, is closely related to exposure. Acceptance refers to the non-judgmental acceptance of present moment experiences, involving non-defensive confrontation of thoughts, emotions, and bodily sensations as they are experienced. Crucially, this involves refraining from attempting to control or order particular events and confronting them without resorting to safety behaviors [22]. Furthermore, ACT exercises encourage individuals to observe their experiences and reactions to these experiences as they occur. Maintaining non-judgmental observation of anxiety-related feelings without attempts at escape or avoidance may lead to a reduction in emotional reactivity evoked by anxiety symptoms. Therefore, the impact of this therapy on cognitive avoidance, resilience, self-differentiation, and rumination in women with depression is plausible and likely. Given that individuals with depression are often preoccupied with worry and stress arising from negative thoughts and beliefs, this disorder significantly exacerbates rumination and consequently impairs psychological functioning. In these circumstances, increased resilience, coupled with decreased rumination and cognitive avoidance, can significantly reduce the psychological symptoms of depressive disorder and improve psychological functioning, ultimately leading to enhanced mental health and well-being.

This study, conducted with a specific population of female patients with depression in a particular geographic location (Ahvaz, Iran), may limit the generalizability of the findings to other populations, such as male patients or individuals with different cultural backgrounds. Future research should replicate this study with diverse populations and settings, including male samples, to enhance generalizability and explore potential gender-specific effects of ACT on depression. Furthermore, the present study employed a quasi-experimental design. Future research employing a randomized controlled trial design would strengthen the evidence base by controlling for potential confounding variables and affording stronger causal inferences. Additionally, this study assessed only the immediate effects of ACT. Future research incorporating longer-term follow-up assessments would be beneficial in determining the sustainability of the treatment effects over time. Future research could also explore the efficacy of ACT in comparison to other evidence-based therapies for depression, such as cognitive behavioral therapy (CBT) or interpersonal therapy (IPT), to determine its relative effectiveness. Finally, investigating the specific mechanisms of change within ACT that contribute to improvements in cognitive avoidance, resilience, self-differentiation, and rumination would be valuable.

Conclusion

This study provides compelling evidence for the efficacy of ACT in mitigating negative cognitive and emotional patterns associated with depression. The experimental group demonstrated significant improvements in cognitive avoidance, rumination, resilience, and self-differentiation compared to the control group. These findings have significant implications for clinical practice, suggesting that ACT offers a promising therapeutic approach not only for women with depression, but also potentially for other populations experiencing similar psychological challenges. By fostering psychological flexibility through acceptance, mindfulness, and values-driven action, ACT empowers individuals to manage difficult thoughts and emotions and engage in meaningful activities, thereby improving overall well-being. Clinicians and mental health practitioners should consider integrating ACT into treatment plans, either as a standalone therapy or in combination with other evidence-based approaches, to address core features of depression such as rumination, avoidance, and low motivation. ACT techniques can help patients develop greater self-awareness, defuse from unhelpful cognitive patterns, and commit to actions aligned with their values, promoting a more fulfilling life even in the presence of difficult internal experiences.

Highlights

What Is Already Known?

Depression constitutes a prevalent mental health condition with a substantial negative impact on individuals' overall well-being. This multifaceted disorder is characterized by a constellation of cognitive and emotional patterns, including cognitive avoidance, diminished resilience, impaired self-differentiation, and rumination.

What Does This Study Add?

The study demonstrates that ACT can significantly reduce cognitive avoidance and rumination while simultaneously enhancing resilience and self-differentiation in individuals with depression. The findings suggest that ACT offers a promising therapeutic approach for women experiencing depression, providing them with valuable tools and strategies for managing their emotional and cognitive difficulties.

Authors' Contributions

NB: Conceptualization, methodology, investigation, formal analysis, writing—original draft. ZDB: Supervision, validation, resources, writing—review and editing.

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Conflicts of Interest Disclosures

There are no conflicts of interest regarding the publication of the current research.

Consent For Publication

All participants provided written informed consent for the publication of anonymized data. The authors consent to the publication of this manuscript.

Ethics approval

The study protocol was approved (code: IR.IAU.AHVAZ.REC.1403.008) by the Ethics Committee of Islamic Azad University, Ahvaz Branch.

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The extent of AI use

No artificial intelligence tools were used in the conduct of this research or the preparation of this manuscript.

Ethical Considerations

The study protocol was approved (cod: IR.IAU.AHVAZ.REC.1403.008) by the Ethics Committee of Islamic Azad University.

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