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The Effectiveness of Acceptance and Commitment Therapy on Psychological Distress and Self-Care in Patients with Hypertension

Mahdiyeh. Almasi Nahanji[1], Melika. Alipour[2], Eshagh. SamKhaniani[3]*, Mahsa. Ghasemi[4], Atefeh. Haghighat[5]

1 Master of General Psychology, Department of Psychology, Tonekabon Branch, Islamic Azad University, Tonekabon, Iran.
2 Master's student of Clinical Psychology, Department of Psychology, Tonekabon Branch, Islamic Azad University, Tonekabon, Iran.
3 Assistant Professor, Department of Psychology, Ayandegan University, Tonekabon, Iran
4 Master of General Psychology, Kherad institute of Higher Education, Bushehr Branch, Bushehr, Iran.
5 Department of Nursing and Midwifery, Se.C., Islamic Azad University Semnan, Iran.
*Correspondence: esamkhanian84@aihe.ac.ir

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ABSTRACT

The present study aimed to determine the effectiveness of Acceptance and Commitment Therapy (ACT) on psychological distress and self-care among patients with hypertension. The research method was quasi-experimental, employing a pretest–posttest design with a control group. The statistical population of this study consisted of patients with hypertension who were referred to the Arsam Psychological Services and Counseling Center in the city of Tonekabon during the first six months of 2026. From this population, 30 participants were selected through convenience sampling and were randomly assigned into two groups: an experimental group (15 participants) and a control group (15 participants). In this study, the Psychological Distress Questionnaire and the Self-Care Questionnaire were used. Subsequently, the participants in the experimental group received Acceptance and Commitment Therapy for 8 weeks in weekly 60-minute sessions, while the control group received no specific intervention. The findings indicated that the mean scores of psychological distress and self-care among patients in the posttest were significantly different from those in the pretest in the experimental group. Therefore, Acceptance and Commitment Therapy has an effect on psychological distress and self-care among patients with hypertension.

Keywords: Acceptance and Commitment Therapy, Psychological Distress, Self-Care, Hypertension.

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Introduction

Hypertension is considered one of the most prevalent chronic medical conditions and a major global public health concern due to its extensive physical, psychological, and social consequences. The condition is strongly associated with increased risk of cardiovascular disease, stroke, renal dysfunction, and premature mortality, and its prevalence has continued to increase across different populations worldwide (1, 2). In addition to its physiological complications, hypertension imposes substantial psychological burdens on affected individuals. Patients with hypertension frequently experience chronic stress, emotional instability, anxiety, depression, and persistent psychological distress, all of which negatively influence treatment

adherence and disease management (3, 4). Because hypertension is often a lifelong condition requiring continuous medical management and lifestyle modification, psychological functioning and behavioral self-regulation play critical roles in the successful control of the disease and prevention of secondary complications.

Psychological distress is recognized as one of the most significant psychological difficulties experienced by individuals with chronic illnesses. Psychological distress generally refers to a combination of emotional suffering, anxiety, depressive symptoms, cognitive strain, and maladaptive emotional reactions resulting from stressful life conditions or illness experiences (5, 6). Individuals with chronic diseases often experience greater levels of distress because they are continuously confronted with fears regarding disease progression, physical limitations, financial burden, and uncertainty about the future. Research has demonstrated that elevated psychological distress is associated with reduced quality of life, impaired interpersonal functioning, lower treatment adherence, and poorer health outcomes among medical patients (3, 7). In patients with hypertension, persistent psychological distress may exacerbate physiological symptoms through heightened autonomic arousal, increased cortisol secretion, and maladaptive coping behaviors, thereby intensifying the progression of the disease and reducing the effectiveness of medical interventions.

The psychological experiences associated with chronic illness are not limited to emotional suffering alone. Chronic conditions such as hypertension often require individuals to engage in continuous self-care behaviors in order to manage symptoms and maintain physical stability. Self-care refers to the set of deliberate and health-oriented activities that individuals perform to maintain physical health, regulate symptoms, prevent complications, and improve overall well-being (8, 9). In patients with hypertension, self-care behaviors include regular medication adherence, dietary regulation, physical activity, blood pressure monitoring, stress management, and avoidance of harmful behaviors such as smoking or excessive salt intake. Effective self-care behaviors are associated with improved cardiovascular outcomes, reduced hospitalization rates, and enhanced quality of life among individuals with chronic diseases (10, 11).

Despite the importance of self-care in disease management, many patients with hypertension encounter considerable difficulties in maintaining consistent self-care behaviors. Psychological distress, emotional dysregulation, low self-efficacy, and maladaptive cognitive patterns may interfere with individuals' motivation and ability to engage in health-promoting activities (12, 13). Previous studies have shown that emotional difficulties and repetitive negative thinking patterns can significantly reduce treatment adherence and weaken self-care engagement among patients with chronic diseases (14). Therefore, interventions that target psychological functioning while simultaneously enhancing adaptive coping and behavioral flexibility may provide substantial benefits for individuals with hypertension.

In recent years, third-wave behavioral therapies have gained increasing attention as effective approaches for addressing psychological difficulties associated with chronic medical conditions. Among these approaches, Acceptance and Commitment Therapy (ACT) has emerged as one of the most empirically supported interventions for improving psychological health and behavioral functioning across a wide range of populations (15, 16). ACT is grounded in contextual behavioral science and emphasizes the development of psychological flexibility through acceptance, mindfulness, cognitive defusion, value clarification, and committed action. Rather than attempting to eliminate unpleasant thoughts and emotions, ACT encourages individuals to accept internal experiences while engaging in meaningful and value-based behaviors (15, 17).

The central premise of ACT is that psychological suffering is often intensified by experiential avoidance and cognitive fusion. Individuals who attempt to suppress or control distressing emotions and thoughts may become trapped in maladaptive coping cycles that ultimately increase emotional suffering and behavioral dysfunction. ACT seeks to reduce these maladaptive patterns by fostering acceptance of internal experiences and promoting adaptive engagement with life values and goals (16, 18). Through mindfulness-based awareness and cognitive defusion techniques, individuals learn to observe their thoughts and emotions without excessive attachment or avoidance. Consequently, psychological flexibility increases, enabling individuals to respond more adaptively to stressful situations and chronic health challenges.

A growing body of research has demonstrated the effectiveness of ACT in reducing psychological distress and improving emotional functioning among clinical and non-clinical populations. Studies have shown that ACT can significantly reduce symptoms of anxiety, depression, emotional dysregulation, and distress tolerance difficulties (19, 20). For example, Yaghoubi et al. reported that ACT significantly improved distress tolerance and cognitive flexibility among individuals with major depression (21). Similarly, Sohrabnejad et al. found that ACT reduced suicidal thoughts and increased distress tolerance among substance users (18). These findings support the notion that ACT can effectively enhance individuals' capacity to manage difficult emotional experiences and engage in adaptive coping behaviors.

The effectiveness of ACT has also been demonstrated in relation to physical and medical conditions. Because chronic illnesses are often accompanied by psychological suffering, behavioral limitations, and difficulties in treatment adherence, ACT has increasingly been applied within health psychology and behavioral medicine contexts (16). Research has shown that ACT can improve quality of life, emotional adjustment, and psychological functioning among individuals with chronic illnesses such as cardiovascular disease, diabetes, cancer, and neurological disorders (22, 23). Rose et al. demonstrated that ACT improved quality of life among individuals with muscle diseases, while Jin et al. reported reductions in psychological distress among parents of children with cancer following ACT intervention (22, 23). These findings indicate that ACT may provide meaningful psychological benefits for individuals coping with chronic health-related stressors.

In addition to reducing psychological distress, ACT appears to positively influence self-care and health-related behaviors. The emphasis of ACT on committed action and value-oriented behavior may increase individuals' motivation to engage in adaptive self-management practices despite experiencing unpleasant thoughts or emotions. Previous studies have reported significant improvements in self-care behaviors among patients receiving ACT interventions (24, 25). Siyafi et al. found that ACT improved emotional self-regulation and self-care among patients with coronary heart disease (24). Likewise, Zandi et al. demonstrated that ACT significantly enhanced self-care among individuals with type II diabetes (25). Similar findings were reported by Amiri et al., who observed improvements in psychosocial adjustment to illness and self-care among cardiovascular patients receiving ACT (26). These results suggest that ACT may strengthen patients' ability to engage in health-promoting behaviors and maintain greater adherence to treatment recommendations.

Research has further indicated that psychological flexibility, distress tolerance, and self-compassion are strongly associated with adaptive self-care behaviors and improved mental health outcomes (27, 28). Individuals with greater psychological flexibility are more capable of responding adaptively to stressful situations without resorting to avoidance or emotional suppression. Consequently, these individuals may

demonstrate stronger engagement in healthy lifestyle behaviors and more effective chronic disease management. ACT interventions, by directly targeting psychological flexibility and experiential avoidance, may therefore contribute simultaneously to emotional well-being and behavioral self-regulation among patients with hypertension.

Although substantial evidence supports the effectiveness of ACT in various psychological and medical contexts, limited research has specifically examined its impact on psychological distress and self-care among patients with hypertension. Existing studies in cardiovascular populations have primarily focused on broader quality-of-life outcomes or general emotional functioning, while fewer investigations have addressed the combined role of psychological distress reduction and self-care enhancement in hypertension management (24, 29). Given the chronic nature of hypertension and the important role of behavioral adherence in disease control, identifying effective psychological interventions that can simultaneously reduce distress and improve self-care remains a critical clinical priority.

Furthermore, hypertension management requires not only pharmacological treatment but also sustained behavioral commitment and emotional resilience. Psychological interventions capable of increasing acceptance, mindfulness, emotional regulation, and value-based action may significantly contribute to more effective disease management and improved patient outcomes. Since psychological distress often undermines self-care engagement and treatment adherence, interventions such as ACT may provide a comprehensive therapeutic framework for addressing both emotional and behavioral dimensions of hypertension simultaneously (30, 31). The transdiagnostic nature of ACT also increases its applicability across different chronic illness populations and psychological difficulties (16).

Considering the growing prevalence of hypertension, the psychological burden associated with chronic disease management, and the potential therapeutic benefits of Acceptance and Commitment Therapy, further investigation in this field appears necessary. Therefore, the present study aimed to determine the effectiveness of Acceptance and Commitment Therapy on psychological distress and self-care among patients with hypertension.

Methods and Materials

Study Design and Participants

The present study employed a quasi-experimental design using a pretest–posttest format with a control group. The statistical population consisted of patients diagnosed with hypertension who were referred to the Arsam Psychological Services and Counseling Center in the city of Tonekabon during the first six months of 2026. From this population, 30 participants were selected through convenience sampling based on their willingness to participate and their eligibility for the study. Inclusion criteria included a confirmed diagnosis of hypertension by a physician, age between 30 and 65 years, the ability to participate in psychological intervention sessions, and the absence of severe psychiatric disorders or cognitive impairments that could interfere with treatment participation. Participants who were absent from more than two intervention sessions or who withdrew from the study were excluded from the research process. After the initial selection, participants were randomly assigned into two equal groups consisting of an experimental group with 15 participants and a control group with 15 participants. Both groups completed the study questionnaires before

and after the intervention period. The experimental group received Acceptance and Commitment Therapy, whereas the control group did not receive any psychological intervention during the study period.

Data Collection

Psychological distress was assessed using the Kessler Psychological Distress Scale (K-10), developed by Kessler et al. in 2003. This questionnaire consists of 10 items designed to evaluate the individual's level of psychological distress and emotional problems experienced during recent weeks. The items are scored on a five-point Likert scale ranging from "none of the time" scored as 0 to "all of the time" scored as 4. Therefore, the total score ranges from 0 to 40, with higher scores indicating greater levels of psychological distress. Previous studies have demonstrated acceptable psychometric properties for this instrument. Lotfi et al. reported a Cronbach's alpha coefficient of 0.83 and internal validity above 0.70 for the Persian version of the questionnaire. In addition, international studies have reported a Cronbach's alpha coefficient of 0.93 and a reliability coefficient of 0.91, indicating satisfactory reliability and validity for assessing psychological distress in clinical populations.

Self-care behaviors were measured using the Self-Care Questionnaire developed by Pouyanfard et al. in 2020. This instrument contains 15 items designed to assess the level of self-care behaviors among individuals. The questionnaire items are rated on a five-point Likert scale ranging from "very low" scored as 1 to "very high" scored as 5. Total scores on the questionnaire range from 15 to 75, with higher scores reflecting higher levels of self-care behaviors. The developers of the instrument reported a Cronbach's alpha coefficient of 0.87 for the scale, and the content validity of the questionnaire was confirmed by mental health specialists and psychologists. Furthermore, Asadi et al. reported a Cronbach's alpha coefficient of 0.88 for the instrument, indicating good reliability. In the present study, the reliability of the questionnaire was also confirmed with a Cronbach's alpha coefficient of 0.87.

Intervention

The participants in the experimental group received Acceptance and Commitment Therapy (ACT) over a period of eight consecutive weeks. The intervention consisted of one 60-minute session per week conducted in a group format by a therapist trained in ACT principles and techniques. The therapeutic program focused on the core processes of Acceptance and Commitment Therapy, including acceptance of internal experiences, cognitive defusion, mindfulness and present-moment awareness, self-as-context, clarification of personal values, and commitment to value-oriented actions. During the sessions, participants were encouraged to identify maladaptive thought patterns and emotional avoidance behaviors associated with psychological distress and chronic illness management. Through experiential exercises, mindfulness practices, metaphors, and behavioral assignments, the participants learned to develop greater psychological flexibility and improve adaptive coping strategies related to hypertension management and self-care behaviors. Homework assignments were also provided at the end of each session to reinforce therapeutic concepts and encourage the practical application of learned skills in daily life. Meanwhile, the control group did not receive any structured psychological intervention during the study period and continued their routine medical care.

Data Analysis

Data analysis was conducted using descriptive and inferential statistical methods. Descriptive statistics, including means and standard deviations, were used to summarize the demographic characteristics and study variables. Inferential statistics were employed to examine the effectiveness of Acceptance and Commitment Therapy on psychological distress and self-care among patients with hypertension. Prior to hypothesis testing, assumptions related to normality and homogeneity of variances were evaluated. The collected data were analyzed using covariance analysis to compare posttest scores between the experimental and control groups while controlling for pretest differences. All statistical analyses were performed using SPSS software, and the significance level for all statistical tests was considered to be less than 0.05.

Findings and Results

The demographic findings indicated that the participants of the present study consisted of 30 patients diagnosed with hypertension who were equally assigned to the experimental and control groups. The age range of participants was between 32 and 64 years, with a mean age of 48.73 years. In terms of gender distribution, 16 participants were female and 14 were male. Most participants were married and had experienced hypertension for more than three years. The educational level of the participants ranged from secondary school education to university degrees. No significant demographic differences were observed between the experimental and control groups in terms of age, gender, educational level, or duration of illness, indicating that the groups were relatively homogeneous before the intervention.

Table 1. Descriptive Statistics of Psychological Distress and Self-Care Scores in the Pretest and Posttest Stages for the Experimental and Control Groups

Variable	Stage	Experimental Group Mean	Experimental Group SD	Control Group Mean	Control Group SD
Psychological Distress	Pretest	39.45	5.74	38.14	5.14
Psychological Distress	Posttest	28.12	4.35	37.37	5.35
Self-Care	Pretest	42.35	6.58	41.58	6.67
Self-Care	Posttest	51.64	7.78	43.68	6.89

The comparison of the mean scores presented in Table 1 demonstrates that the mean scores of the intervention group changed noticeably from the pretest to the posttest stage in both psychological distress and self-care variables. Specifically, psychological distress scores decreased substantially in the experimental group following the intervention, while self-care scores increased after treatment. In contrast, the control group showed only minimal changes in both variables across the two measurement stages. These findings provide preliminary evidence regarding the effectiveness of Acceptance and Commitment Therapy in reducing psychological distress and improving self-care among patients with hypertension.

Before conducting the covariance analysis, the assumptions underlying multivariate analysis were examined. The normality of the data distribution was assessed using the Kolmogorov–Smirnov test. The findings indicated that the significance values for most variables were greater than 0.05, suggesting that the assumption of normal distribution was satisfied for the majority of the study variables. In addition, homogeneity of variances and regression slope assumptions were examined and confirmed before performing the analysis of covariance. Therefore, the use of multivariate covariance analysis was considered

appropriate for evaluating the effectiveness of Acceptance and Commitment Therapy on psychological distress and self-care among patients with hypertension.

Table 2. Results of Analysis of Covariance for Psychological Distress and Self-Care

Variable	Source	Sum of Squares	df	Mean Square	F	Sig.	Eta Squared	Statistical Power
Psychological Distress	Pretest	168.867	1	168.867	23.12	0.007	0.48	0.48
Psychological Distress	Group	386.186	1	386.186	114.75	0.001	0.53	1.00
Self-Care	Pretest	453.278	1	453.278	28.47	0.005	0.41	0.44
Self-Care	Group	658.879	1	658.879	96.28	0.001	0.56	1.00

The results presented in Table 2 indicate a significant difference between the posttest mean scores of the experimental and control groups after controlling for pretest effects. The findings revealed that Acceptance and Commitment Therapy significantly reduced psychological distress among patients with hypertension, as evidenced by the significant group effect ($F = 114.75$, $p = 0.001$). Furthermore, the intervention significantly increased self-care behaviors among participants in the experimental group compared to the control group ($F = 96.28$, $p = 0.001$). The obtained effect sizes also demonstrated that the intervention had a substantial effect on both psychological distress and self-care variables. Therefore, it can be concluded that Acceptance and Commitment Therapy was effective in decreasing psychological distress and enhancing self-care among patients with hypertension.

Discussion and Conclusion

The present study was conducted to determine the effectiveness of Acceptance and Commitment Therapy (ACT) on psychological distress and self-care among patients with hypertension. The findings demonstrated that ACT significantly reduced psychological distress and improved self-care behaviors among participants in the experimental group compared to the control group. These findings suggest that ACT can serve as an effective psychological intervention for improving emotional functioning and strengthening adaptive health-related behaviors among individuals with hypertension. The observed changes indicate that psychological interventions targeting emotional regulation, acceptance, and behavioral flexibility may positively influence both psychological and physical dimensions of chronic disease management.

One of the principal findings of the present study was the significant reduction in psychological distress among patients with hypertension following ACT intervention. This result is consistent with previous studies indicating the effectiveness of ACT in reducing emotional suffering, anxiety, depressive symptoms, and maladaptive cognitive processes across various populations (19-21). The findings are also aligned with the results reported by Rajabi and Yazdkhasti, who demonstrated that ACT reduced anxiety and depression among women with multiple sclerosis (30). Similarly, Sohrabnejad et al. found that ACT significantly reduced suicidal thoughts and increased distress tolerance among substance users (18). The reduction in psychological distress observed in the present study may therefore reflect the ability of ACT to modify maladaptive emotional processing and reduce experiential avoidance in patients with chronic medical conditions.

The effectiveness of ACT in reducing psychological distress can be explained through the theoretical foundations of contextual behavioral science proposed by Hayes et al. (15). According to this perspective, emotional suffering is intensified when individuals become cognitively fused with distressing thoughts and attempt to avoid unpleasant emotional experiences. Patients with hypertension frequently experience

chronic concerns regarding disease complications, physical health deterioration, and limitations associated with long-term treatment. These concerns may generate persistent anxiety, emotional exhaustion, and maladaptive rumination, ultimately contributing to elevated levels of psychological distress. ACT helps individuals develop psychological flexibility by encouraging acceptance of internal experiences rather than engaging in emotional suppression or avoidance. Through mindfulness exercises, cognitive defusion techniques, and acceptance-based strategies, patients learn to observe distressing thoughts and emotions without becoming overwhelmed by them. Consequently, emotional reactivity decreases and psychological adjustment improves.

Another explanation for the reduction in psychological distress among participants may be related to improvements in distress tolerance and emotional self-regulation following ACT intervention. Previous studies have demonstrated significant relationships between distress tolerance, emotional regulation, and psychological well-being (6, 28). Individuals with low distress tolerance often experience greater emotional vulnerability and may respond to stressful conditions through avoidance, emotional withdrawal, or maladaptive coping strategies. ACT encourages individuals to remain psychologically present and tolerate unpleasant experiences while continuing to engage in meaningful activities. Therefore, patients may gradually become more capable of managing stressful disease-related experiences without excessive emotional disruption. This interpretation is supported by findings reported by Baniasadi et al. and Yaghoubi et al., who observed improvements in distress tolerance and cognitive flexibility following ACT interventions (19, 21).

The findings of the present study also indicated that ACT significantly improved self-care behaviors among patients with hypertension. This finding is consistent with previous studies demonstrating the positive effects of ACT on self-care and treatment adherence in patients with chronic illnesses (24-26). Siyafi et al. reported that ACT enhanced emotional self-regulation and self-care among patients with coronary heart disease (24). Similarly, Zandi et al. found that ACT significantly improved self-care among individuals with type II diabetes (25). Amiri et al. also demonstrated that ACT improved psychosocial adjustment to illness and self-care among individuals with cardiovascular disease (26). The consistency between the findings of the present study and previous investigations suggests that ACT may effectively strengthen adaptive health-related behaviors across various chronic disease populations.

The improvement in self-care behaviors observed in the present study may be explained through the behavioral and motivational mechanisms emphasized in ACT. Self-care behaviors require sustained behavioral commitment, self-regulation, and adherence to health-promoting activities despite the presence of unpleasant emotions or physical discomfort. Patients with hypertension often experience fatigue, frustration, hopelessness, or emotional distress that interfere with consistent engagement in healthy behaviors such as medication adherence, physical activity, dietary regulation, and stress management. ACT emphasizes committed action based on personal values, helping individuals identify meaningful life goals and engage in adaptive behaviors despite psychological discomfort (15, 17). As patients become more psychologically flexible, they may become better able to maintain health-oriented behaviors even in the presence of stress, negative thoughts, or emotional difficulties.

Furthermore, mindfulness and acceptance processes within ACT may improve individuals' awareness of bodily sensations, emotional states, and behavioral patterns, thereby facilitating more conscious and

adaptive health-related decision-making. Research has shown that self-awareness, self-compassion, and perceived self-efficacy play important roles in promoting self-care behaviors among individuals with chronic illnesses (11, 12). ACT interventions encourage individuals to develop nonjudgmental awareness of their internal experiences while reducing self-criticism and emotional avoidance. This process may increase patients' willingness to engage in adaptive health behaviors and reduce behavioral disengagement associated with chronic illness stress. Stutts et al. also demonstrated that greater self-compassion is associated with reduced psychological effects of stress and improved emotional functioning (27). Therefore, ACT may indirectly strengthen self-care behaviors through improvements in emotional acceptance and self-regulatory capacity.

Another important explanation for the effectiveness of ACT in improving self-care involves its impact on repetitive negative thinking and maladaptive cognitive patterns. Previous studies have indicated that repetitive negative thoughts and maladaptive emotional regulation strategies can significantly interfere with treatment adherence and health behaviors among patients with chronic illnesses (14). Individuals who become entangled in persistent negative cognitions may experience reduced motivation for self-management and diminished confidence in their ability to control their illness. Through cognitive defusion techniques, ACT helps individuals detach from maladaptive thoughts and reduce the influence of negative internal dialogue on behavior. As a result, patients may become more capable of engaging in adaptive self-care activities without being dominated by hopelessness or fear regarding their illness condition.

The findings of the present study are also compatible with broader evidence supporting the effectiveness of ACT across medical and psychological populations. Rose et al. reported improvements in quality of life among individuals with muscle diseases following ACT intervention (22). Likewise, Jin et al. demonstrated reductions in psychological distress and improvements in quality of life among parents of children with cancer receiving ACT-based intervention (23). Dindo et al. further emphasized the transdiagnostic nature of ACT and its applicability to both mental health conditions and chronic medical disorders (16). These findings collectively suggest that ACT may provide a flexible and effective framework for addressing the psychological and behavioral challenges associated with chronic disease management.

The effectiveness of ACT in the present study may additionally reflect the importance of integrating psychological care into the treatment of hypertension. Traditional medical approaches often focus primarily on pharmacological management, whereas chronic diseases such as hypertension are strongly influenced by psychological, emotional, and behavioral factors. Emotional distress can increase physiological arousal and negatively influence cardiovascular functioning, while poor self-care behaviors may reduce treatment effectiveness and increase the risk of disease progression (1, 2). Therefore, interventions capable of simultaneously reducing emotional distress and enhancing self-care behaviors may significantly improve overall disease management and patient well-being.

Another noteworthy aspect of the present findings is the potential role of psychological flexibility as a central mechanism underlying both emotional improvement and behavioral change. Psychological flexibility allows individuals to remain connected to the present moment while engaging in behaviors aligned with personal values despite experiencing discomfort or emotional difficulty. This capacity may be particularly important for individuals with chronic illnesses who must continuously adapt to ongoing medical demands and lifestyle restrictions. ACT directly targets psychological flexibility through mindfulness, acceptance,

value clarification, and committed action strategies, thereby enabling patients to cope more effectively with the emotional and practical challenges of hypertension management (15, 16).

Overall, the findings of the present study demonstrate that Acceptance and Commitment Therapy can effectively reduce psychological distress and enhance self-care behaviors among patients with hypertension. The intervention appears to improve emotional regulation, distress tolerance, psychological flexibility, and behavioral commitment, all of which contribute to improved adaptation to chronic illness. These findings highlight the importance of addressing psychological functioning within the broader context of chronic disease treatment and suggest that ACT may serve as a valuable complementary intervention alongside standard medical care for patients with hypertension.

One of the limitations of the present study was the relatively small sample size, which may restrict the generalizability of the findings to broader populations of patients with hypertension. In addition, participants were selected using convenience sampling from a single counseling center, which may limit the representativeness of the sample. Another limitation was the absence of a long-term follow-up assessment to evaluate the durability of treatment effects over time. The reliance on self-report questionnaires may also have increased the possibility of response bias or socially desirable responding among participants.

Future studies are recommended to examine the long-term effectiveness of Acceptance and Commitment Therapy through follow-up assessments conducted several months after the intervention. Researchers are also encouraged to use larger and more diverse samples from multiple healthcare settings in order to improve the generalizability of findings. Comparing ACT with other psychological interventions, such as cognitive behavioral therapy or mindfulness-based interventions, may further clarify the relative effectiveness of different therapeutic approaches for patients with hypertension. Additionally, future research could investigate mediating variables such as psychological flexibility, emotional regulation, or self-compassion to better understand the mechanisms underlying therapeutic change.

The findings of the present study suggest important practical implications for healthcare professionals and psychological practitioners working with patients who have hypertension. Integrating Acceptance and Commitment Therapy into cardiovascular and chronic disease treatment programs may help improve patients' emotional well-being and strengthen their engagement in self-care behaviors. Healthcare centers and counseling clinics may benefit from implementing ACT-based psychological interventions as complementary services alongside medical treatment. Training healthcare professionals in ACT principles may also facilitate more holistic approaches to chronic disease management and improve overall patient outcomes.

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Authors' Contributions

All authors equally contributed to this study.

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.

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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