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The Effect of Acceptance and Commitment Group Therapy on Resilience Among Youths With Substance Abuse

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ABSTRACT

Problem: Strengthening the resilience of young people recovering from substance abuse is essential for effectively preventing relapse.

Methods: This study investigated the impact of an Acceptance and Commitment Therapy (ACT) intervention on youths undergoing substance use rehabilitation in the Eastern region of Thailand. Participants in the intervention group received the ACT-based intervention alongside their regular rehabilitation program ($n = 50$), while the control group received standard treatment ($n = 50$). Data were collected at three time points: before, immediately after, and 1 month after intervention, using a personal information questionnaire and a resilience scale. The data were analyzed using descriptive statistics and two-way repeated measures ANOVA.

Findings: The study found that participants in the intervention group had significantly higher mean resilience scores immediately after the intervention and at the 1-month follow-up compared to the control group ($F_{(1,\ 98)} = 7991.00$, $p < 0.001$). Analysis of the repeated measures ANOVA revealed a statistically significant difference in resilience mean scores between pre-intervention and the 1-month follow-up in the intervention group ($p < 0.05$).

Conclusion: This finding shows that ACT group therapy effectively enhances resilience in youth recovering from substance use. Psychiatric nurses play a crucial role in the recovery process. They can use this therapy to design tailored intervention programs sensitive to youth's cultural and community contexts that fosters adaptive thinking and behaviors, building resilience in this vulnerable population.

1 | Introduction

Adolescence is a critical period of rapid physical, emotional, and social development (Steinberg 2020). While it is a time for increased independence and self-exploration, it also exposes adolescents to high-risk behaviors such as substance use, reckless driving, and unprotected sex—each of which presents significant challenges to healthcare professionals and policymakers (Arnett 2024). Substance use is particularly concerning among these risks due to its immediate and long-term effects on health, behavior, and social outcomes (Substance Abuse and Mental Health Services Administration SAMHSA 2024). In the US, approximately 27 million individuals aged 12 and older report some level of substance misuse, underscoring the scale of the issue (Substance Abuse and Mental Health Services Administration SAMHSA 2024).

Globally, the prevalence of substance misuse among adolescents is influenced by various factors, including availability,

cultural norms, and economic conditions. In Southeast Asia, particularly the "Golden Triangle" region (comprising Thailand, Myanmar, and Laos), amphetamine-type stimulants (ATS), especially methamphetamine, have become a significant public health concern (United Nations Office on Drugs and Crime UNODC 2024). In Thailand, methamphetamine use is the most common form of substance abuse among adolescents, contributing to health risks, drug-related crimes, and social issues such as school dropout and mental health problems (Thaikla 2022; Office of the Narcotics Control Board [ONCB] 2024). Chronic use leads to cognitive deficits, worsens mental health, and increases vulnerability to psychological disorders (ONCB 2024).

In response to this crisis, the Thai government has implemented a multifaceted approach to substance abuse, integrating voluntary, compulsory, and punitive programs that address the physical, psychological, and social aspects of addiction. These programs, typically involving preparation, detoxification, rehabilitation, and follow-up care, draw on international models like the Matrix Model and cognitive-behavioral approaches (Ministry of Public Health 2024). While evidence supports the effectiveness of these programs in reducing drug use and promoting recovery (Chokrung et al. 2018; Dallas et al. 2018), high relapse rates and youth involvement in drug-related crimes highlight the need for interventions targeting the underlying social and psychological factors of adolescent substance use (Thaikla 2022).

Resilience is a key protective factor in preventing adolescents from engaging in substance abuse (Luthar et al. 2000). It involves overcoming adversity, recovering from stress, and emerging stronger. Resilience encompasses three dimensions: (1) *"I have"*—external support systems, (2) *"I am"*—internal personal strength, and (3) *"I can"*—problem-solving skills and interpersonal relationships (Grotberg 2003). Individuals with high resilience use available support, maintain a positive self-image, and exhibit strong emotional regulation, problem-solving, and communication skills. These qualities enable them to navigate challenges effectively, avoid risky behaviors, and maintain good mental health.

Previous studies have shown that resilience helps individuals avoid substance use, especially in the face of trauma or stress (Garrison-Desany et al. 2024), and promotes well-being, reducing substance use among high-risk youth populations (Hills et al. 2016). In Thailand, resilience has been linked to greater intentions to abstain from drugs among youth in treatment (Detchaiyot et al. 2021). Therefore, interventions aimed at building resilience—through problem acceptance, self-improvement, and personal responsibility—could be key to preventing and treating adolescent substance abuse.

Acceptance and Commitment Therapy (ACT), a mindfulness-based approach emphasizing psychological flexibility and resilience, has shown promise in treating substance use disorders (Hayes et al. 1999). ACT's six core processes—acceptance, cognitive defusion, mindfulness, self-as-context, values, and committed action—provide adolescents with essential tools to observe and manage their thoughts and emotions, ultimately fostering resilience and reducing the risk of addiction relapse (Hayes et al. 2006).

Psychological flexibility has emerged as a vital component of resilience among individuals with substance use issues (Rudzinski et al. 2017). Research findings have shown that ACT effectively improves resilience among various populations, including medical staff during the COVID-19 pandemic (Ravanbakhsh et al. 2023), youth with diabetes (Ryan et al. 2020), and young individuals with Somatic Symptom Disorder (SSD) (Rostami and Dasht Bozorgi 2019). These results suggest that the principles of psychological flexibility and values-based living inherent in ACT can significantly enhance resilience in vulnerable groups. Moreover, empirical evidence indicates that ACT has been successful in boosting self-concept and psychological flexibility while concurrently reducing anxiety, depression, anger, and disruptive behaviors among antisocial youth in residential care (Livheim et al. 2020). Additionally, ACT has been shown to decrease addiction severity in male methamphetamine users (Bahrami and Asghari 2017).

Given these findings, ACT may offer a sustainable path to recovery, helping adolescents lead fulfilling lives free from substance dependence. However, substance use recovery in youth is a complex and vulnerable process that requires targeted interventions to build resilience and prevent relapse. Psychiatric nurses are pivotal in advancing evidence-based practices to empower youths undergoing rehabilitation. The integration of ACT into psychiatric nursing practice provides a promising avenue to enhance the resilience and recovery of youth battling substance use disorders. By leveraging their expertise in mental health care, psychiatric nurses not only promote individual well-being but also drive systemic change to reduce the burden of substance use on families and communities. The significance of psychiatric nurses as leaders in mental health care innovation highlights their capacity to shape the future of youth rehabilitation and resilience-building in meaningful and impactful ways. As psychiatric nurses, the research teams aimed to examine the effects of an ACT group intervention on resilience among youth undergoing rehabilitation for substance use in treatment centers in Eastern Thailand.

2 | Materials and Methods

2.1 | Samples

The sample size was determined using power analysis for two-way repeated measures ANOVA (Cohen 1988) via G*Power 3 software version 3.1.9.7 (Faul et al. 2007). The calculation parameters included a significance level (α) of 0.05, statistical power of 0.80, a small effect size (f) of 0.20 (Gray and Grove 2021), two groups (intervention and control), three measurement points (pre-test, posttest, and follow-up), and an expected correlation of 0.50 among repeated measures. A power analysis to detect interaction effects between group and time determined that a minimum sample size of 42 participants per group yielded 84 participants. Anticipating a 10% attrition rate based on previous longitudinal studies with similar populations (Gray and Grove 2021), the final sample size was increased to 50 participants per group, resulting in 100 youths undergoing substance use rehabilitation in Eastern Thailand.

The inclusion criteria were: (1) youths aged 18–25 years currently receiving amphetamine treatment; (2) the ability to read, write, and understand Thai; (3) no hearing impairments; and (4) the absence of drug withdrawal symptoms, such as headaches, irritability, or difficulty concentrating, that might hinder treatment.

Two rehabilitation centers in Eastern Thailand were randomly assigned as intervention (Center A) or control (Center B) sites. Fifty participants were randomly selected from each center using a computer-generated random number sequence from the list of youths who meet the criteria (95 in Center A, 85 in Center B). The intervention group was subdivided into four groups of 12–13 participants to ensure optimal group dynamics and facilitate effective participation.

All the study procedures were approved by the Burapha University Human Research Ethics Review Committee (Certification No. IRB1-013/2021). Informed consent was obtained from each potential participant. Participants were informed of their voluntary participation and right to withdraw from the study at any time, without facing any adverse effects on their ongoing treatment or rehabilitation services. Throughout all intervention sessions, the researchers monitored participants for any psychological issues and provided immediate assistance when necessary. Furthermore, participants in the control group were offered the opportunity to receive the same Acceptance and Commitment Therapy (ACT) intervention, thereby ensuring fairness and equitable access to potentially beneficial interventions. All collected data were deidentified and stored securely in password-protected files accessible only to the research team to protect participants' privacy and confidentiality. The data analysis presented is intended for general informational purposes only and does not identify or disclose specific individuals.

2.2 | Research Instruments

The research instruments consisted of both data collection and intervention tools, as outlined below.

2.2.1 | Data Collection Instruments

2.2.1.1 | Part I: Personal Data Questionnaire. This questionnaire was developed by the researcher based on a thorough literature review. It collects basic demographic information from participants, including age, marital status, education, occupation, monthly income before treatment, and drug use history.

2.2.1.2 | Part II: Resilience Questionnaire. This questionnaire was developed by Nintachan et al. (2012) based on Grotberg (1995) conceptual framework of resilience. It contains 28 items divided into three dimensions: 9 items assess the “I have” dimension, 10 items assess the “I am” dimension, and 9 items assess the “I can” dimension. Responses are scored on a 5-point Likert scale, with total scores ranging from 28 to 140. Higher scores indicate greater resilience. The questionnaire has been validated and is widely used within Thai adolescent populations, demonstrating high reliability with Cronbach's alpha coefficients ranging from 0.85 to 0.93 (Nintachan et al. 2017; Pholkrathok et al. 2019).

2.2.2 | Intervention Instruments: Acceptance and Commitment Group Therapy

The researchers developed this intervention based on the principles of Acceptance and Commitment Therapy (ACT) as outlined by Hayes et al. (2006). The program was specifically designed to enhance resilience in youths undergoing substance rehabilitation within the Thai context. The eight program activities were derived from ACT's six core processes and informed by qualitative research on the meaning and enhancement of resilience. Insights from experts in child and adolescent psychology, youths with substance use issues, and relevant literature were incorporated. These activities were tailored to align with the cultural context of Thai youth.

The program consists of 8 sessions, conducted twice weekly for 60–80 min per session, over the course of 4 weeks. Each session serves a specific therapeutic purpose, as Table 1.

2.3 | Data Collection

The data collection process began with obtaining ethical approval and official permission from the heads of the substance rehabilitation centers. Participants were randomly assigned to either the intervention or control group, with 50 participants in each. After explaining the study's objectives, procedures, and participants' rights, informed consent was obtained from those willing to participate. If any participant declined, additional individuals were selected to ensure each group had 50 participants.

The intervention group received eight sessions of ACT, conducted twice a week over 4 weeks. Each session lasted 60–80 min. The control group followed the standard rehabilitation program. After completing the intervention, both groups underwent a posttest, followed by a 1-month follow-up assessment.

At the end of the study, the control group was offered the ACT program to ensure equitable access to the intervention.

2.4 | Data Analysis

The collected data were analyzed using statistical software as follows: (1) descriptive statistics, including frequency distribution, percentage, mean, and standard deviation, were used to analyze participants' demographic characteristics; (2) a two-way repeated measures ANOVA was employed to compare mean resilience scores between the intervention and control groups at pre-test, posttest, and 4-week follow-up. If significant differences were found, pairwise comparisons were conducted using the Bonferroni method.

TABLE 1 | Structure and content of the Acceptance and Commitment Group Therapy Program.

Session	Title	Objective and key activities
1	Knowing, Understanding, and walking together on the lifeways	• Establish rapport, trust, and group cohesion • Enhance self-awareness and mindfulness • Encouraging participants to live in the present moment
2	Being aware of yourself in the present moment	• Practice mindfulness to heighten awareness of thoughts and emotions • Fostering a deeper understanding of the present
3	Embrace the devil & walk with our hearts	• Encourage participants to acknowledge and accept negative emotions and thoughts. • Foster resilience, hope, and optimism in facing challenges
4	Life trap	• Cultivate present-moment awareness • Identify cognitive traps. • Encourage releasing negative thought patterns • Making meaningful life changes
5	Value of life, destiny ways	• Recognize the importance of personal values • Goal-setting • Emphasize actions aligning with the values ("I have" component)
6	Mask of life	• Differentiate between self as context and self as content • Encourage acceptance of thoughts and emotions • Developing psychological flexibility ("I am" component)
7	Miracle things, I can do it	• Enhance self-efficacy and personal growth • Recognizing one's potential for change ("I can" component)
8	My tree in this world	• Reflect on short-and long-term goals • Reinforce self-belief and resilience • Integrating the "I am," "I have," and "I can" components

Program Duration: The intervention consists of eight sessions, conducted twice weekly for 60–80 min per session over four weeks.

3 | Results

3.1 | Participants' Demographic Characteristics

The intervention group consisted of 50 participants, with a mean age of 22.82 years (SD = 1.84). Most participants were single (86%) and predominantly Buddhist (98%). In terms of education, 56% had completed primary school, while 38% had completed lower secondary education. Regarding employment, 46% were general laborers, and 20% worked in companies. The average age of first drug use was 16.03 years (SD = 2.68), with the youngest participant starting at age 10. On average, participants had undergone 2 treatments (SD = 0.89), with the maximum number of treatments being 9. The average treatment duration was 34 days (SD = 19.26). Most participants in the intervention group used more than four types of drugs, with methamphetamine ("ice") being the most commonly used, followed by cigarettes and amphetamines.

The control group also comprised 50 participants, with a mean age of 22.40 years (SD = 2.21). Similar to the intervention group, the majority were single (76%) and Buddhist (98%). Regarding education, 56% had completed primary school, while 32% had completed lower secondary education. In terms of employment, 58% were general laborers, and 20% were unemployed. The average age at which participants first used drugs was 15.80 years (SD = 2.72), with the youngest starting at age 10. On average, participants in the control group had received two treatments (SD = 1.48), with a maximum of nine treatments. The average treatment duration was 40 days (SD = 12.59). Like the intervention group, most participants in the control group used more than four types of drugs, with methamphetamine ("ice") being the most common, followed by cigarettes and amphetamines.

A comparison of demographic characteristics between the intervention and control groups, using Chi-square and Fisher's exact tests, revealed no significant differences in age, marital status, religion, education, occupation, age at first drug use, or the number and types of drugs used before treatment ($p > 0.05$). However, the groups did differ significantly in the number of treatment episodes and the duration of their current treatment.

3.2 | Resilience Scores of the Intervention and Control Groups

The mean resilience scores for the intervention group were 78.20 (SD = 8.61) before the experiment, 81.10 (SD = 11.96) immediately after, and 81.46 (SD = 8.51) at the 1-month follow-up. For the

control group, the corresponding scores were 82.48 (SD = 8.63) before the experiment, 76.04 (SD = 13.19) immediately after, and 76.30 (SD = 12.52) at the 1-month follow-up (see Table 2).

3.3 | Comparison of Mean Resilience Scores Between the Experimental and Control Groups at Pre- and Post-Intervention and 1-Month Follow-Up

An analysis of variance (ANOVA) revealed a statistically significant difference in resilience scores between the intervention and control groups ($F_{(1, 98)} = 7991.00$, $p < 0.001$), indicating that participants in the intervention group had significantly higher resilience scores than those in the control group.

Analysis of variance in resilience scores between experimental and control groups over the intervention period revealed no statistically significant main effect of time ($F(_{2, 98}) = 1.60$, $p > 0.05$), indicating that resilience scores, when averaged across groups, remained stable. However, interaction effects between the intervention method and time showed a significant difference in resilience trends between the two groups ($F_{(1.94,\ 98)} = 13.17$, $p < 0.001$), demonstrating differential patterns of change between groups. At baseline, the intervention group had lower resilience scores (M = 78.20, SD = 8.61) than the control group (M = 82.48, SD = 8.63). This pattern reversed post-intervention, with the intervention group demonstrating higher resilience scores (M = 81.10, SD = 11.96) than the control group (M = 76.04, SD = 13.19). This differential pattern persisted at the 1-month follow-up assessment (intervention group: M = 81.46, SD = 8.51; control group: M = 76.30, SD = 12.52; see Table 3 and Figure 1).

Pairwise comparisons of the resilience scores in the intervention group using the Bonferroni method indicated that the scores significantly increased from pre-experiment to 1-month follow-up ($p < 0.05$), as detailed in Table 4.

4 | Discussion

This study examined the effectiveness of the ACT program in enhancing resilience among youth undergoing substance use

TABLE 2 | Mean resilience scores of the intervention and control groups ($n = 100$).

	Intervention group		Control group	
Time	**Mean**	**SD**	**Mean**	**SD**
Pre-test	78.20	8.61	82.48	8.63
Posttest	81.10	11.96	76.04	13.19
1-month follow-up	81.46	8.51	76.30	12.52

TABLE 3 | Analysis of variance results of mean resilience scores between experimental methods and experimental duration ($n = 100$).

Source of Variance	df	SS	MS	F	*p*-value
Between group					
Experiment	1	1884802.80	1884802.80	7991.00	0.000***
Error	98	23114.83	235.866		
Within group					
Time	2	178.69	92.02	1.60	0.20
Group*Time	1.94	1469.66	756.84	13.17	0.000***
Error	190.30	10936.99	57.47		

***$p < 0.001$.

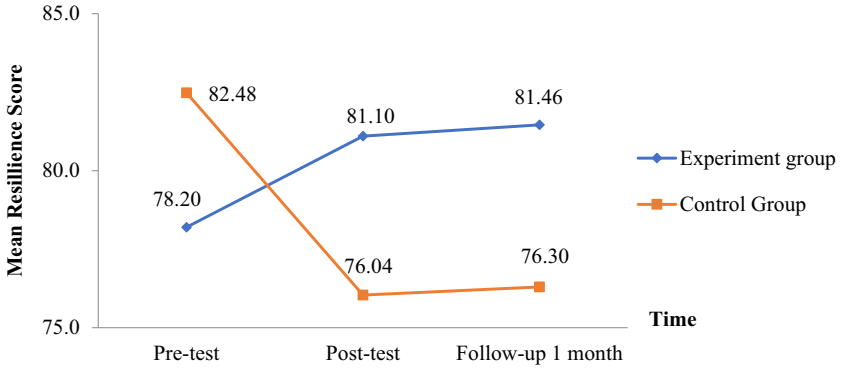

FIGURE 1 | Interaction effect between intervention method and time on mean resilience scores. [Color figure can be viewed at wileyonlinelibrary.com]

TABLE 4 | Pairwise comparison of the mean resilience scores of the Intervention in the pre-post experiment and the 1-month follow-up ($n = 50$).

Group/time	Mean	Time duration		
		Pre-test	Post test	1-month follow-up
Intervention group				
Pre-experiment	78.20		−2.90	−3.26*
Post-experiment	81.10			−0.36
1-month follow-up	81.46			

*$p < 0.05$.

rehabilitation in treatment centers in Eastern Thailand. The results highlighted a significant increase in resilience in the intervention group immediately following the intervention compared to the control group. This increase was sustained at the 1-month follow-up. These findings support the efficacy of the ACT program in enhancing resilience in Thai youth undergoing substance rehabilitation, with its effects enduring over time.

The study's findings align with Bahrami and Asghari's (2017) study, which demonstrated that ACT reduced addiction severity among 30 male methamphetamine users in seven dimensions, namely medical condition ($p = 0.016$), occupational status ($p = 0.037$), alcohol use status ($p = 0.002$), substance use status ($p = 0.001$), legal status ($p = 0.002$), family status ($p = 0.000$), and psychological condition ($p = 0.000$). Similarly, Towsyfyan and Sabet (2017) study demonstrated that ACT improved resilience and optimism in adolescents with depression.

In a related study, Ebrahimi et al. (2022) found that the ACT program significantly improved self-concept and resilience in children and adolescents with cancer. Multivariable covariance analysis showed differences in self-concept ($F = 24.05$, $p < 0.01$) and resilience ($F = 11.88$, $p <= 0.01$) between the posttest scores of the experimental and control groups, even after controlling for other variables. Moreover, Ravanbakhsh et al. (2023) reported improvements in resilience in frontline medical staff during the COVID-19 pandemic, attributing these changes to ACT's emphasis on acceptance, self-compassion, and values-based actions under stress. Similarly, Ryan et al. (2020) found that ACT increased resilience in youth with diabetes, further demonstrating ACT's broad applicability across diverse health-related challenges. These empirical findings support the use of the ACT program as a robust intervention for methamphetamine addiction or other psychological problems.

These findings are consistent with the ACT model outlined by Hayes et al. (2006), which posits that resilience is fostered through psychological flexibility—the ability to experience emotions and thoughts without avoidance and act in accordance with personal values. The six core processes of ACT—cognitive defusion, acceptance, self-as-context, mindfulness, values clarification, and committed action—were tailored to meet the specific rehabilitation needs of Thai youth. Grounding activities helped participants stay present, while values clarification encouraged long-term goal-setting, fostering a sense of purpose. Cognitive defusion exercises allowed participants to reframe self-defeating thoughts, and acceptance enabled them to process past experiences nonjudgmentally, which promoted resilience through adaptive self-perception.

In conclusion, the program's focus on mindfulness and values-based action increased participants' psychological flexibility, improving their problem-solving skills, reducing cognitive fusion, and encouraging balanced acceptance of both positive and negative experiences. These results highlight ACT's strong potential in fostering resilience not only in youth with substance use issues but also across a broad range of youth populations.

4.1 | Implications

The study results suggest that mental health and psychiatric nurses, particularly those in public health care centers, could benefit from incorporating ACT into substance rehabilitation programs for youth. ACT could enhance existing therapeutic practices, promoting sustainable resilience outcomes for individuals facing substance use challenges. Mental health and psychiatric nurses who are responsible for the recovery of youths with substance abuse should consider offering training sessions on ACT for nurses and others involved in substance treatment. Furthermore, it is crucial that nursing academic institutions explore including ACT in advanced therapeutic courses for graduate nursing students, providing theoretical knowledge and practical experience to equip future clinicians with the most effective tools for working with youth in rehabilitation. Additionally, psychiatric nurses advocate for integrating ACT into national rehabilitation protocols, influencing policy development and resource allocation.

4.2 | Recommendations for Further Research

Psychiatric nurses contribute to the body of evidence by conducting research on ACT's long-term outcomes and exploring its applicability across diverse populations. Future research should evaluate the effectiveness of ACT across different types of addiction and examine long-term resilience outcomes. Additionally, studies that incorporate ACT into various treatment settings (e.g., outpatient programs and community-based interventions) could provide valuable insights into its adaptability and broader application in diverse populations. These efforts will help further validate ACT's role in substance rehabilitation and its potential as a comprehensive approach to promoting mental health and well-being in youth.

5 | Conclusion

This study investigated the effect of the ACT group program on resilience among youth undergoing rehabilitation for substance use in treatment centers in Eastern Thailand. The findings revealed a significant improvement in resilience among participants in the intervention group, with scores increasing immediately after the intervention and remaining elevated at the 1-month follow-up. These results provide empirical evidence supporting the integration of ACT-based group interventions into standard rehabilitation practices. By incorporating ACT into routine care, psychiatric nurses can significantly enhance resilience, a key protective factor against relapse in this vulnerable population. Future research should focus on evaluating the long-term efficacy of ACT interventions across diverse treatment settings and populations. These efforts will strengthen the evidence base and guide the development of comprehensive, resilience-centered approaches in substance use rehabilitation programs. This study highlights the transformative potential of ACT interventions in advancing the quality of care for youth with substance use disorders. It underscores the pivotal role of psychiatric nurses in driving innovative, evidence-based practices.

Author Contributions

Jinjutha Chaisena Dallas conceptualized the study, designed the methodology, oversaw the project, developed the ACT program, contributed to data collection, and revised the manuscript. Duangjai Vatanasin developed the ACT program, contributed to data collection, performed data analysis, and wrote and revised the manuscript. Pakinee Detchaiyot assisted with the literature review, data collection, and preliminary data analysis. Sawitree Wonginjun assisted with the data collection and preliminary data analysis.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data underpinning the findings of this study can be obtained from the corresponding author upon reasonable request.

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