

Effectiveness of Acceptance and Commitment Intervention on Emotional Regulation and Suicidal Ideation among Depressed Patients

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Abstract

Background: Depression can be treated with acceptance and commitment therapy (ACT), according to research, nevertheless, not much is known regarding the patient's ACT experiences. **The aim of the study** is to evaluate the effectiveness of acceptance and commitment intervention on emotional regulation and suicidal ideation among depressed patients. **Subjects and Methods: Design:** a quasi-experimental (one group pre-and post-testing) was used in this study. **Subjects:** A purposive sample consisted of 60 patients is included. **Tools:** I: Structured interview questionnaire; II: Difficult of Emotion Regulation Scale; III: Suicidal Ideation Questionnaire. **Results:** A statistically significant positive correlation was detected between difficulties with emotional regulation and suicidal ideations at the pre- and post-program. While no significant correlation was noted between difficulties with emotional regulation and suicidal ideations at follow-up. **Conclusion:** The current study findings concluded that Acceptance and Commitment intervention is a useful intervention approach for people with depression because it enhances emotional regulation and lowers suicidal ideation. **Recommendations:** An educational training program should be applied to teach and train staff nurses about strategies for ACT application with depressed patients.

Keywords: Acceptance and Commitment Intervention, Depression, Emotional regulation, Suicidal ideation.

Introduction

Depression is one of the most serious psychiatric concerns among adults and adolescents which can lead to suicide and impair social functioning, family connections, and academic achievement, all of which have an adverse effect on one's career and social standing. Depression is characterized by a persistent state of sadness, poor mood, lack of interest in often pleasurable activities, and for at least two weeks, the incapacity to carry out everyday tasks. Common symptoms of depression include low energy, anxiety, guilt, worthlessness, and even thoughts of suicide (Clayborne, Varin, & Colman, 2019).

The term "emotional regulation" (ER) refers to a wide framework that describes how people manage and control their emotions. There are three phases of emotional regulation: selection (selecting an appropriate emotion regulation strategy for the given context), identification (identifying an emotional response), and implementation (carrying out the chosen strategy) (Berglund, James, Raugh, & Strauss, 2023). Unfortunately, any problem of emotional regulation is associated with many psychological problems (Brausch & Woods, 2019).

Research indicates that proficient emotional regulation is essential for maintaining mental

well-being, and that emotional regulation challenges are linked to negative behaviors and mental illnesses like self-harm, substance misuse, anxiety, depression, post-traumatic stress disorder (PTSD), and borderline personality disorder (**Hamid, Moghadam, & Boolaghi, 2018**). Previous recent studies on depressed patients displayed the traits of emotional regulation and reported that those with ER issues are incapable of realizing completely the existent feelings or even manage the negative one, furthermore, healthy ER methods like reappraisal, awareness, and problem-solving were used less frequently than damaged ER strategies like avoidance, rumination, and suppression (**Lincoln, Schulze, & Renneberg, 2022**).

Accordingly, ER strategies are mental reactions to situations that, whether intentionally or inadvertently, arouse the desire to alter the scope and magnitude of emotional quantity and quality. Research indicates that negative cognitive strategies including catastrophe, blame, and rumination appear to be positively connected with depression and other pathological features. However, negative correlations are found in techniques like positive reevaluation (**Ghorbani, Moradi, Arefi, & Ahmadian, 2019**).

As documented by **Bachmann (2018)**, suicide is a complex behavior that may be caused by a number of things, such as stress, personal and familial history, drug and alcohol misuse, hopelessness, severe depressive illness, and other mental problems. An attempt at suicide or suicidal behavior typically follows suicidal thoughts including traits like having self-damaging beliefs as well as wishful thinking carried by those who want to take their own life (**Eed & Elsayed., 2018**).

An expanding number of studies indicate that the subset of patients with major depressive

disorder (MDD) who exhibit suicidal thinking or behavior differs from other MDD patients in several ways in terms of their clinical profile. According to research, individuals with suicidal thinking or behavior, for instance, are inclined to exhibit severe symptoms, less cognitive functioning, more mental disorders, and a reduced life quality (**Borentain, Nash, Dayal, & DiBernardo, 2020**). On the other hand, among MDD patients, there is evidence that active suicidal thoughts or behavior are strongly linked with an inferior response to antidepressant medication and a worse incidence of remission (**Cai et al., 2021**).

The ability to modify and control emotional experiences in order to produce adaptive results and desired emotional states makes emotional regulation strategies as effective means of reducing suicidal ideation (**Neacsiu, Fang, Rodriguez, & Rosenthal, 2018**). In this respect, according to various theoretical frameworks, **Albanese et al. (2019)** mentioned that, numerous psychological symptoms can be attributed to the development and maintenance of emotional responses and emotional regulation. In addition, emotional regulation can be regarded as a helpful mechanism in avoiding suicidal attempts because individuals with suicidal ideation have flaws and issues in the same structure and interpersonal communication skills (**Colmenero-Navarrete, García-Sancho, & Salguero, 2021**).

Certain studies indicate that Cognitive Behavioral Therapy (CBT) possesses comparable efficiency and safety than antidepressants drugs which in sorrow have worse side effects on patients (**Ma, Ji, & Lu, 2023**). Acceptance and Commitment Therapy (ACT) is a representative treatment in the third CBT wave. Increasing psychological flexibility, or the capacity to be aware of events

in the present time in a nonjudgmental and accepting manner while acting in accordance with one's values, is the main objective of (ACT) (**Ghorbani et al., 2019**). Applying mindfulness techniques, accepting one's misery, and distancing one from upsetting ideas can all help someone cope better with the discomfort of intense or emotional suffering. Ultimately, becoming an integrated person might result from identifying one's unique beliefs and acting in a way that is consistent with them, which can enhance wellbeing (**Hemmat, Hemmat, Pirzeh, & Dadashi, 2018**).

As pointing to ACT, there are six interrelated and overlapping processes: (i.e., being open to uncomfortable experiences like unpleasant emotions, memories, or thoughts), contact with the present moment (i.e., awareness of the present moment and mindfulness of one's experiences), self as a context (i.e., maintaining perspective about oneself within one's experiences), cognitive diffusion (i.e., being capable of escaping unpleasant situations without being entangled in them), committed action (i.e., taking activities that advance significant facets of existence), and finally, values (i.e., being true to one's principles or significant aspects of one's life) (**Yaraghchi et al., 2019**).

Importantly, the foundation of ACT is behaviorism by helping people negotiate, accept, and adapt a cognitive event to their emotions all at once, also seeks to empower people to react to situations in a positive way, so ACT is one intervention that can be used to enhance (ER). The ability to accept, confronts, and constructively resolve challenges is another prerequisite for ACT (**Atika, Raras, & Elvi Andriani, 2019**). In ACT humans are supposed to find many of their own opinions, sensations, and emotions bothersome and to

continually want to alter or eliminate these interior experiences. The person tries to escape these thoughts, sentiments, and emotions, but these attempts at control are unsuccessful and sadly make them worse (**Barnes et al., 2021**). Studies by **Pohar & Argáez, (2018)**; **Gonzalez-Fernandez Fernandez-Rodriguez, Paz-Caballero, & Perez-Alvarez, (2018)** have indicated the effectiveness of ACT in treating people with anxiety, PTSD, and or depression. In the same respect **Zemestani & Mozaffari, (2020)** reported that, ACT has seen a rising tide of scientific backing for managing depression. Likewise, **Tjak, Morina, & Topper, (2018)** demonstrated that ACT intervention is an effective depression management technique as it is considerably decreased the individuals' depressed symptoms by increasing their psychological flexibility and emotional regulation.

In the same respect, the results examined the effectiveness of ACT on managing suicidal thinking showed that, after receiving depression management methods, frustration, anxiety, and emotional issues were significantly lessened (**Ducasse et al., 2018**). There is good proof to suggest that ACT intervention might be beneficial for lowering suicidal ideation and deliberate self-harm via fostering psychological flexibility. Releasing oneself from agony is a crucial component of several popular psychological models that aim to explain suicide, especially the entrapment/cry of pain concept (**Fonseca-Pedrero & Al-Halab, 2021**). Escape is known as behavioral avoidance, which is one of the main areas that ACT treatment focuses on.

Monitoring the patient's feelings gives a professional psychiatric nurse crucial information for treatment options aimed at better emotion regulation. These skills include many attempts, such as determining the

meanings as well as causes of emotions, promoting appropriate emotion regulating behaviors and strengthening emotional memory to enhance emotion regulation. In order to address all of these demands, psychiatric nurses participate in therapeutic, rehabilitative, and preventative treatment procedures (**Gabrielsson Tuveesson, Wiklund Gustin, & Jormfeldt, 2020**).

Furthermore, a psychiatric nurse's role includes assisting the patient to rightly identify, monitor and comprehend one's and others' feelings as well as emotions which help in controlling emotional situations, and using the feelings to help with logic one's own and others emotional management (**Cam & Tas Soylu, 2021**). The capacity of nurses to correctly screen, diagnose, and handle a patient's risk of suicide makes them the "front line" in avoiding the act of suicide. The goal of suicide prevention is to treat and provide adequate nursing care to suicidal patients, decrease the likelihood of a suicide attempt in the high-risk patients and prevent complication of this behavior. Suicidal behavior can take many different forms: thoughts, gestures, dangerous lifestyles, plans, attempts, and ultimately, the act of completing suicide. In order to effectively communicate verbally and nonverbally with a patient who is experiencing a suicidal crisis, nurses must be conscious of and mindful of their own ideas and values around suicide (**Elrefaay & Shalaby, 2019**).

Significance of the study

Depression is a key contributing factor to self-harm and is the primary cause of illnesses and disability burden globally. The World Health Organization (WHO) estimates that depression affects approximately 260 million people globally (**WHO, 2023**). The Global Burden of Diseases Study (GBD) from 2019 found that depressive disorders have become more

common place worldwide in recent decades that increased from 170.8 million in 1990 to 279.6 million in 2019. According to comprehensive research by **Odejimi ,Tadros, & Sabry, (2020)**, depression prevalence in Egypt varies from 23.7 to 74.5%. Moreover, approximately 30% of depressed individuals also have suicidal ideas.

ACT is being utilized to treat depressive illnesses in patients in order to elevate mood, regulate emotions, and build as well as realize self-worth. It has demonstrated good maintenance results (**Xia, Sha , Huang , &, 2021**). Interest in ACT as a successful treatment for individuals with depressive illnesses has grown. To validate ACT efficacy compared to other interventions and its persistent effect, however, there needs to be more studies that compile the data that is currently accessible, which could guide its use in clinical practice (**Ruiz Francisco et al., 2020**). Therefore, the current study aimed to evaluate the effectiveness of acceptance and commitment intervention on emotional regulation and suicidal ideation among depressed patients.

Aim of the study

The current study aim was to evaluate the effectiveness of acceptance and commitment intervention on emotional regulation and suicidal ideation among depressed patients.

Research hypotheses: To achieve the presented study aim, two hypotheses were tested:

- **H1:** Patients who participate in acceptance and commitment intervention had a higher emotional regulation score than before program implementation.
- **H2:** Patients who participate in acceptance and commitment intervention had a lower

suicidal ideation score than before program implementation.

Subjects and Method

1. Technical Design

Research Design: This study used a quasi-experimental research approach with only one group pre-and post-testing to attain the aim of the current study and answer the research hypothesis.

Setting of the study

The presented study was carried out at Minia hospital for mental health and addiction treatment, located in New Minia City and connected to the Health Ministry. It has two floors: the pharmacy, outpatient clinics, and female inpatient unit which are located in the ground floor. The hospital's second floor contains the staff nursing office, male inpatient units, addiction treatment center, and administration. There are 53 beds available for both genders. This hospital serves the Minia Governorate and all of its districts.

Subjects

A purposive sample consisted of 60 patients who meet the following criteria and are admitted to the hospital's inpatient psychiatric units: **Inclusion criteria** encompassed patients ages between the 18 and more, diagnosed with depression, presence of suicidal thoughts throughout the prior two weeks based on a structured medical interview questionnaire; and a history of suicidal tries. **Exclusion criteria** include: organic brain disease, mental retardation, and comorbid diagnosis of substance dependence, patients with other psychotic disorders, as well as the patients who participate in other (CBT) groups.

The Minia Hospital for Mental Health and Addiction Treatment facility's registration office reports that 170 individuals received treatment for depression in the most recent year (2022). Based on the following formula,

which took into account the population size of 170, the sample size would be (60) patients with a 5% margin of error and a 95% confidence level. The following sample calculation algorithm will be used to determine the sample size (**Taherdoost, 2017**).

$$N = \frac{t^2 \times p(1-p)}{m^2}$$

Data Collection Tools: through the following tools and considering the aim of the study data needed was collected

Tool (I): Structured Interview Questionnaire Sheet: The researcher developed it in an Arabic language to cover 2 parts:

Part one: Socio-demographic Data Sheet: It includes patients' socio-demographic characteristics like age, gender, residence, educational level, marital status, and occupation. **Part two: Medical Data Sheet:** It involves data such as the duration of illness, duration and frequency of hospitalization, frequency of suicidal thought, previous suicidal attempts, and frequency of suicidal attempts.

Tool (II): Difficult of Emotion Regulation Scale (DERs)

It was created by **Gratz & Roemer (2004)**. This scale assesses the difficulty of controlling emotions, focusing especially on negative feelings. The measure consists of a 36-item self-report with six subscales: six items measure non-acceptance of emotional responses; five items measure emotional clarity; five items measure difficulties in goal-directed behavior when upset; six items measure difficulties with impulse control; six items measure lack of emotional awareness; and eight items measure limited access to emotion regulation strategies. The Likert scale included five points, ranging from 1 (almost

never) to 5 (almost always) for each item on the scale.

- Similarly, the score components for items 1, 2, 6, 7, 8, 10, 17, 20, 22, 24, and 34 are reversed. The overall score was between 36 and 180; a higher score suggested greater difficulties of emotion regulation. The degree of emotional regulation difficulties and the related subscales are shown as follows: 36-83 indicated a lower degree of difficulty; 84–131 suggested a moderate difficulty level; and 132–180 referred to a higher degree of emotion regulation difficulties. This scale was translated by researchers into Arabic and confirmed by a panel of five specialists in psychiatric and mental health nursing.

Tool (III): Suicidal Ideation Questionnaire

This is an Arabic scale developed by **Maamriya (2012)**. It is composed of 21 self-reporting items that have been separated into three dimensions, each with seven items. First, the perception and idea level of suicide are measured by (1, 4, 7, 10, 13, 16, and 19); the desire level is measured by (2, 5, 8, 11, 14, 17, and 20). At the implementation level, the third dimension of suicide is assessed using (3, 6, 9, 12, 15, 18, and 21). Respondents were requested to select one response from four. The responses were: no (1); rarely (2); sometimes (3); and mostly (4). The total score of the questionnaire ranged from 21 to 84. The matching items were added up to determine each participant's score; a greater score indicated a higher likelihood of suicide. A score of 21–41 suggests low suicidal ideation; a score of 42–62 shows moderate suicidal ideation; and a score of 63–84 indicates high suicidal ideation.

2. Operational Design

Phase of preparation

It involved developing the data collection techniques through a review of relevant

literature and a theoretical understanding of different study components through books, papers, online journals, and publications.

Validity of the study tools

Five panel professors expertise in psychiatric and mental health nursing specialty assessed the studied tools' validity of content, and they all concurred that the tools' content was legitimate and pertinent to the aim of the research.

Reliability of the study tools

The intrinsic consistency of the instruments was computed applying the coefficients of Cronbach's alpha. The instruments' dependability was evaluated using test-retest reliability, and the findings demonstrated that Cronbach's alpha value of the difficult emotion regulation scale was .783, and for suicidal ideation questionnaire was .812.

A pilot study

A preliminary assessment was performed on six patients (10%) to evaluate all tools for clarity, objectivity, feasibility, and applicability. Additionally, it was done to find any problems associated with administering the tools and estimate the required time for data collection. The modifications were applied according to the preliminary study result, which was left out of the total study sample.

Ethics-related considerations

A preliminary written agreement was acquired from the Minia University Faculty of Nursing's "Research Ethical Committee." Nothing is at danger for the studied patients while the research implementation as the study complied with standard clinical ethical concerns: privacy was provided during data collection, informed oral consent was obtained from the studied patients, and written consent was obtained from the patient rights committee in the hospital. By encoding the data and affording the enrolled patients the option to withdraw

from the research at any time without explanation, confidentiality and anonymity were protected.

Work field

The study's application went through three phases (the phase of assessment, implementation, and evaluation)

Phase 1: Assessment phase

This phase aimed at assessing emotional regulation and suicidal ideation among depressed patients; each patient was interviewed to get the required information. After explaining the study instruments phrases and inquiries to each patient to ensure they might comprehend its significance, the researchers complete the scales. In light of this stage, the researchers composed the program's material and exercises in the shape of videos, posters, and pictures.

Phase 2: Implementation phase

The researchers divided patients into six sub-groups, each of which included 10 patients. Nine sessions were held in total for each group. During the beginning of each session the researchers introduced themselves and explained the goal and content of each session, and then the researchers played the role with one patient in the group. After that, the researchers repeated the same procedure with another patient and selected two patients to perform the same exercises. Instructional strategies were integrated into the educational program. Including; group debates, role-playing, and simulation, obtaining participant comments and offering constructive feedback. The media used included a data show, a movie, pictures, and a booklet to aid in explanation and act as a guide for the patients. The researchers used different methods of material and moral reinforcement, such as bringing different kinds of sweets and other things, as

well as encouraging them through words of praise.

Each session ended with the researchers summarizing the discussion, asking the patients if they had any questions, informing them of the schedule of the next one, and assigning homework for that session. To get an idea of how well the patient understood the exercises that were taught and to go over the session's material once again, the researchers also created a recap of the prior session. After finishing implementation of the program with each group, the second assessment (post-test) was done.

Acceptance commitment intervention program description:

Session 1: It addressed topics such as goal clarity, open communication for recognition, group integration, and the time allotted for intervention sessions. Teach the patients about treatment sessions and protocols, such as reminding them that study data is confidential, that meeting dates and times must be followed, that they should not interrupt other patient's conversations, and that they should complete all tasks assigned in each session.

Session 2: It concentrated on giving a brief overview about definition, etiology, and symptoms of depression in addition to suicide risk assessment and prevention.

Session 3: A brief introduction to emotional regulation consists of the definition, importance, skills, and strategies of emotional regulation

Session4: An overview of ACT encompasses the concept, effectiveness and principles of ACT.

Session 5: Implementation of mindfulness relaxation and breathing exercises (emphasis on being here and now). Explaining the mindfulness technique of being in the present moment without passing judgment on what is

happening. It requires accepting what is occurring without attempting to predict or alter it. Take just a few slow, deep breaths. Place your hands on your belly. Feel your belly expand as you inhale. Feel your belly come in as you exhale. Inhale for one, two, three, and four. Exhale for one, two, three, and four (repeat). Notice your belly moving in and out. When a thought arises, simply observe the thought as if it were a cloud in the sky.

Session 6: Implementation of body scans mindfulness exercises consist of keeping the body in mind, body scan meditation (emphasis on observing thoughts passing through), and ‘letting go’ of evaluating and judging experience (thoughts are not facts).

Session 7: Apply defusing and acceptance interventions within the framework of personal values; perform an acceptance of feelings and thought exercise as well as acceptance of depression and suicidal ideation. This is done to increase patient self-esteem by train patients to use a self-disclosure strategy to confront negative experiences as well as identify negative feelings, express them correctly, accept them, and deal with them.

Session 8: Implementation of mindfulness exercise (Yes and No Exercise).

Session 9: Closing and post-test: Upon expressing gratitude to the study participants for their cooperation, the researchers had an open discussion to find out what the patients thought of the treatment strategy. In addition, researchers confirmed the patients' ongoing participation and commitment, which is required for program continuation, and reminded them about the follow-up plan.

Phase (3): Evaluation phase

Evaluation of acceptance and commitment intervention on emotional regulation and suicidal ideation among depressed patients was carried out three times: once before the

program's implementation (pretest); once right after the program's implementation (posttest) by one week to assess knowledge retention; and once again three months later (follow-up test) to assess the program's lasted efficacy.

Data collection procedure

- Using the available books and articles, a review of the pertinent literature was conducted to learn about the problem under study and how to implement the program. The jury committee, which consisted of five psychiatric mental health nursing specialists from Minia and Assuit Universities reviewed and validated the tools to determine their suitability for achieving the study's objectives in terms of clarity, relevance, comprehensiveness, understanding, and applicability. Ultimately, the necessary modifications were made.

- Formal approval to conduct the study was authorized by Minia Hospital for mental health and addiction treatment director in New Minia City. The hospital's patient rights committee provided written consent for patient's participation in the study. The researcher personally communicated with the patients under study to lay out the study's objectives, obtain their oral consent, and ensure their voluntary participation while maintaining their privacy and confidentiality.

- Two days a week (on Saturdays, and Wednesdays) from 10 AM. To 1 PM., the researchers met the patients under study at the hospital after they had completed breakfast and taken medications. The researchers gathered information then carried out the program over six months, beginning in July 2023 and ending in December 2023. They achieved this by dividing the study's patients into six groups of ten each. There were nine sessions, that each lasted sixty to ninety minutes. Minia hospital

for mental health and addiction treatment inpatient units served as a holding area.

- The evaluation phase was conducted in an outpatient clinic at Minia Hospital for mental health and addiction treatment. To review the dependent variables, the researchers conducted one-on-one, thirty-minute interviews with each patient.

- During individual interviews conducted at the follow-up phase, the researchers re-evaluated the patients' status once more in terms of emotional regulation, and suicidal ideation. Fifty-five patients returned for a follow-up visit to the outpatient clinic, while the remaining five patients were contacted by phone by the researchers. After that, they visited the outpatient clinic, where they had a meeting with the researchers. Thus, follow-up testing was done on sixty patients.

Statistical Analysis

A personal functional computer was used for data input. The statistical package of social science (SPSS, version 25) and Excel for figures were used for statistical analysis. Each tool's material was examined, grouped, and then coded. For qualitative factors, data were presented as frequencies and percentages, and for quantitative variables, as means and standard deviations. The T tests as well as ANOVA and Pearson correlation were employed to detect variations among groups, and the relationship among the study variables. A result is considered non-significant if the p-value is more than 0.05, significant if the p-value is less than 0.05, and highly significant if the p-value is less than 0.01.

Limitations of the study

- The researcher encountered several interruptions from other patients when interviewing patients in the absence of a designated or quiet space, which occasionally required redoing the session. Some exercise

was difficult for some patients to do, so the researchers repeated it with the patients many times, which consumed time.

- The absence of oversight for training tasks completed outside of training sessions after follow-up period was another drawback.

Results

Table (1) illustrates the studied patients' socio-demographic data. Concerning age, 41.7% of the studied patients are in age group ranged between 18 and 28 years with mean age 24.2337 ± 4.623 . Also 63.3% of them are males, 53.3% are single and 33.3% had primary as well as secondary education. Regarding occupation 58.3% of the studied patients are working and the highest percentage 73.3% are living in urban place.

Table (2) clarifies the frequency distribution of the studied patients according patients' medical data. It is observed that 40% of the studied patients experiencing the disorder > 3 years ago. About how often people are admitted to hospitals, 48.3% of the patients are admitted once to the hospital, while for the most part, 88.3%, stay for $1 < 2$ months in the hospital. In addition, half of them 50% had suicidal thoughts once per week. Furthermore, 55% and 63.6% of the patients had previous suicidal attempts and attempted suicide once, respectively.

Figure (1) demonstrates that 50% of the studied patients had a moderate difficulties emotional regulation in the pretest, while 75.0% and 66.7% had lower difficulties of emotional regulation in the post-test and follow-up test, respectively.

Figure (2) shows that 61.6% of the studied patients have moderate suicidal ideation and 16.7% have higher suicidal ideation in the pretest, while 73.3% of them have low suicidal ideation in the immediate posttest and 65% of

them have low suicidal ideation in the follow-up.

Table (3) demonstrates that the mean score of total difficulties in emotion regulation before implementation of the program was $123.4333+29.72$, which decreased to $80.2000+29.31$ immediately after implementation of the program, while the mean score was $92.6833+25.64$ at the follow-up test. In addition, the total mean score of suicidal ideations was $49.1333+11.37$ in the pretest and decreased to $39.0667+11.02$ in the posttest and $43.4000+11.13$ in the follow-up. Furthermore, a highly statistically significant difference was observed at the pre-, post-, and follow-up tests regarding total scores of difficulties in emotional regulation and suicidal ideation, at a P-value of 0.0001**.

Table (4) presents a statistically significant positive correlation between difficulties with emotional regulation and suicidal ideations at the pre- and post-program as $r = .772, p.000^{**}$, $r = .714, p.000^{**}$ respectively. While no significant correlation was noted between difficulties with emotional regulation and suicidal ideations at follow-up, $r = .339, p.056$.

Table (1): Frequency distribution of the studied patients according to socio-demographic data (N = 60).

Socio-demographic data	N	%
Age		
18 < 28 yrs.	25	41.7
28 < 38 yrs.	18	30.0
> 38 yrs.	17	28.3
Mean \pmSD	24.2337\pm 4.623	
Gender		
Male	38	63.3
Female	22	36.7
Marital status		
Single	32	53.3
Married	23	38.3
Divorce	5	8.3
Level of education		
Not read nor write	13	21.7
Primary education	20	33.3
Secondary education	20	33.3
High education	7	11.7
Occupation		
Not work	25	41.7
Work	35	58.3
Living place		
Urban	44	73.3
Rural	16	26.7

Table (2): Frequency distribution of the studied patients according to their medical data (N=60).

Medical data	N	%
Length of illness duration		
< 1 yr.	22	36.7
1 < 2 yrs.	8	13.3
2 < 3 yrs.	6	10.0
≥ 3 yrs.	24	40.0
Times of hospital admission frequency		
1 time	29	48.3
2 times	8	13.3
3 times	11	18.3
>3 times	12	20.0
Hospital length of stay		
1 < 2M	53	88.3
2-3M	7	11.7
Frequency of suicidal thought per week		
Once /week	30	50.0
Twice/ week	20	33.3
More than twice per week	10	16.7
History of previous suicidal attempts		
Yes	33	55.0
No	27	45.0
If yes how many times you attempt suicide (N . 33)		
Once	21	63.6
Twice	12	36.4

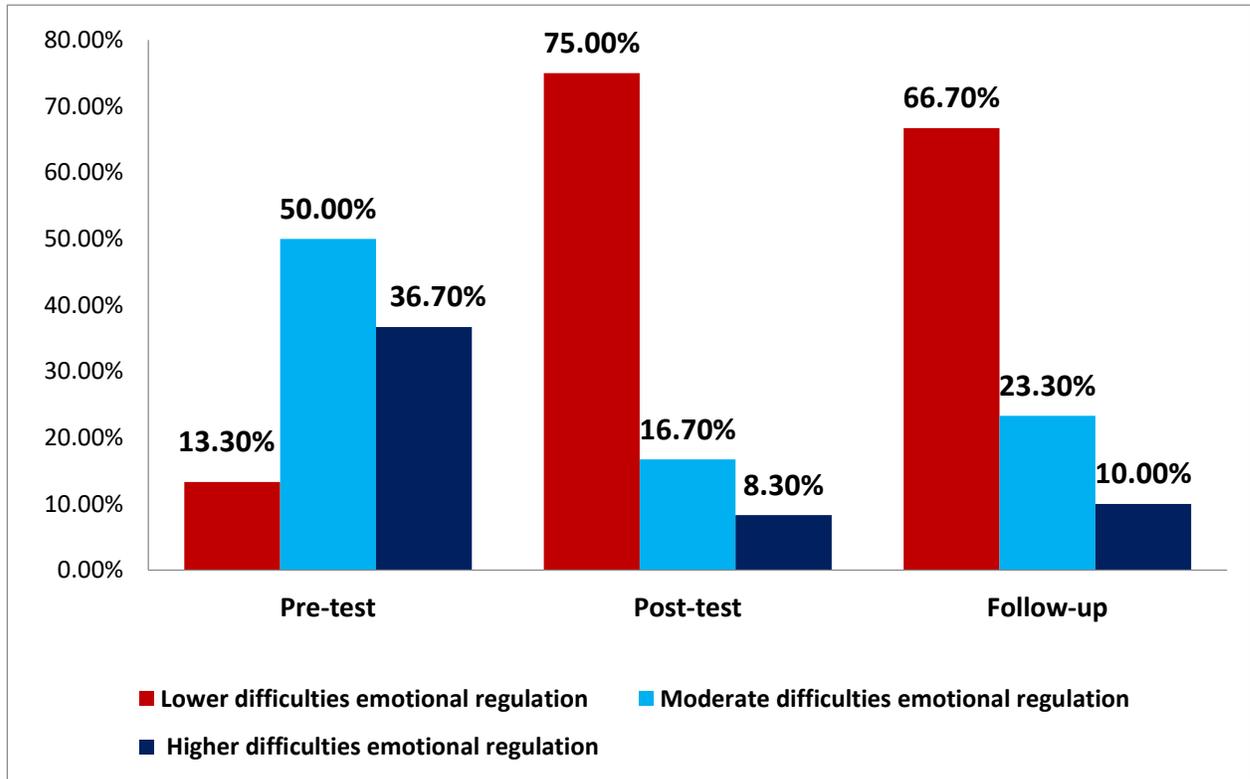


Figure (1): Percentage distribution of difficulties emotion regulation among the studied patients (N=60).

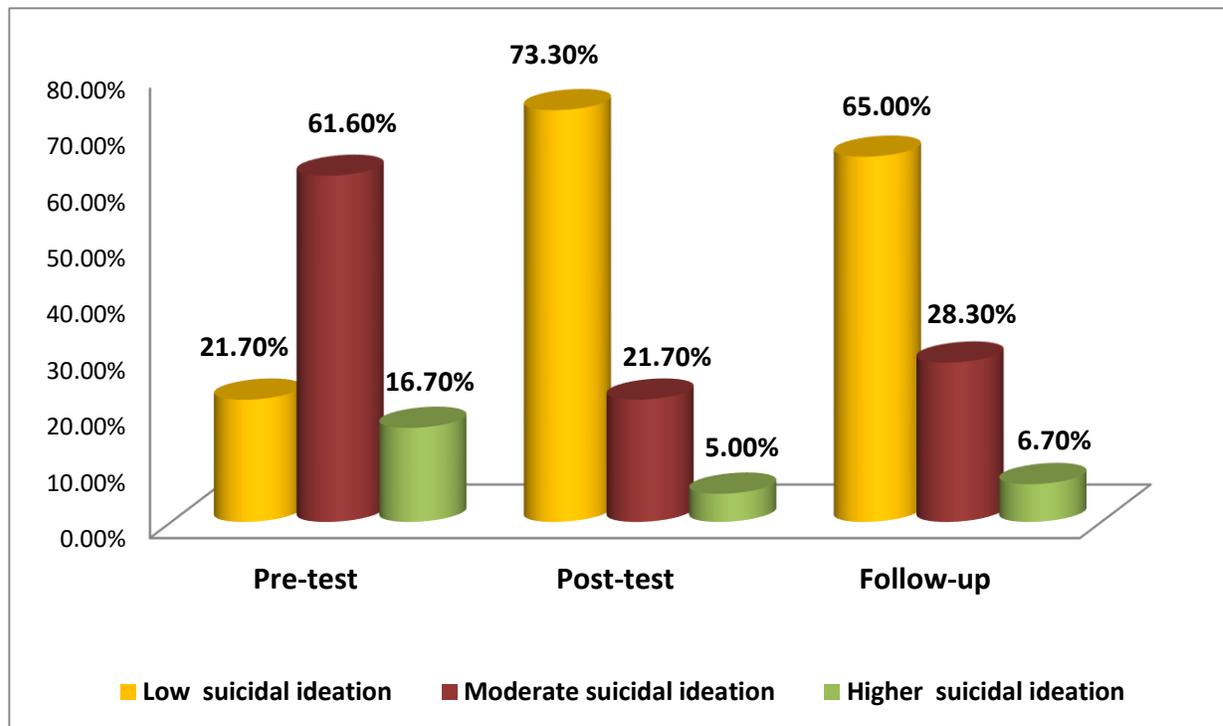


Figure (2): Percentage distribution of patient's suicidal ideation (N = 60).

Table (3): Comparison between mean patients' scores in pre, post and follow up program regarding total difficulties emotion regulation and suicidal ideation (N = 60).

	Pre-test	Post – test	Follow-up	χ^2 F°	P value
	Mean \pm SD	Mean \pm SD	Mean \pm SD		
Difficulties emotion regulation	123.4333 \pm 29.72	80.2000 \pm 29.31	92.6833 \pm 25.64	113.29	.0001**
Suicidal ideation	49.1333 \pm 11.37	39.0667 \pm 11.02	43.4000 \pm 11.13	42.77	.0001**

Table (4): Correlation matrix between difficulties emotion regulation and suicidal ideation on the different time of program implementation (N=60)

		Pre-test		Post – test		Follow-up	
		Difficulties emotion regulation	Suicidal ideation	Difficulties emotion regulation	Suicidal ideation	Difficulties emotion regulation	Suicidal ideation
Difficulties emotion regulation	R	1	.772**	1	.714**	1	.339*
	P-		.000		.000		.056
Suicidal ideation	R		1		1		1
	P-						

Discussion

Acceptance and commitment therapy (ACT) might be advantageous for the treatment of psychological conditions as depressive symptoms and psychosis, which are linked to a higher chance of suicide (**Ducasse et al. 2018**). So, the goal of the current study was to evaluate how well acceptance and commitment intervention affects emotional regulation and suicidal ideation among depressed patients. Concerning socio-demographic data, the current research revealed that over one third of patients ranged between 18 and 28 years old, with a mean age of 24.2337 ± 4.623 . While more than half were male, single, and working, but about one-third of patients had primary as well as secondary education. Regarding residence, the highest percentage of them lived in urban areas.

The current study findings were to some extent in the same line with **Mohamed & Ahmed (2022)** whose findings showed that near half of the patients with depression were young, between the ages of 20 and 40. The majority of them were men who live in rural regions. Slightly over half of them had completed secondary school, and almost half were married. Over two-fifths of the patients

in the study were also employers. Also, there was agreement between the study findings with **Ali et al. (2022)** who reported that, the highest percentage of the study participants were single, had secondary education, not working and among them, almost half came from rural regions.

However, the previous results may be slightly different from the results of a research by **Mohamed Nashaat, Mostafa, & Hussein, (2020)** who stated that the mean age of the sample was 35.44 ± 10.402 years. (55.6%) were female. More than half of them (57.8%) were married. Rural residents (53.3%) were more common than urban (46.7%). The most common educational level was high education (31.1%), followed by technical education (26.7%). Full-time employees were (53.3%). This variation could be due to socioeconomic and time variations.

In relation to medical data, the presented results clarified that more than one third of the patients suffered from the illness more than three years ago, and nearly half were admitted once to the hospital, and most of them had spent between one and two months there. In addition, half of them had suicidal thoughts once per week and had previous suicidal

attempts. Furthermore, about two-thirds of them attempted suicide once before.

The previous results matched **El-Sayed et al. (2023)** who reported that only 20% of individual in the control group and 36.7% of clients in the intervention group reported having symptoms for less than a year. In both groups, over half of the patients (76.7% in the research group and 53.3% in the control group) had been hospitalized one to five times. **El-Sayad & Alghtani (2022)** clarify that, approximately 50% of the subjects had really attempted suicide.

As regards difficult emotional regulation, the current results revealed that about fifty percent of the patients had moderate difficulties with emotional regulation in the pretest, while about three-quarters and about two-thirds of them had lower difficulties of emotion regulation in the post- and follow-up tests, respectively. This might be addressed by pointing out that depressed individuals fail to apply appropriate emotional management techniques and utilize ineffective ones. As a result, depressed patients fail to control their negative emotions. In addition, this result can be related to the importance of acceptance and commitment intervention and its positive impact on the studied patient's emotional regulation and lower suicidal ideation.

These findings corroborated those of **Visted ,Vollestad, Nielsen ,& Schanche, (2018)** indicated that, people with MDD struggle to manage their emotions; in comparison to healthy controls who report employing more maladaptive emotion regulation techniques. They added that depressed people report having fewer general emotion regulation skills, such as emotional awareness, tolerance, and clarity as well as employing less adaptive emotion controlling techniques.

These results were also consistent with those obtained by **Norouzi, Zargar, & Norouzi,**

(2017) who found that, the scores for difficult regulation of emotions were significantly different between the control and intervention groups. This means that ACT was able to lessen the difficulties in regulating emotions in the intervention group as compared to the control group. The author added that one possible justification for the aforementioned finding was that the ACT techniques were helpful in maladaptive strategies for regulating emotions, with the development of emotional awareness and with focusing on various emotional regulation aspects. Consequently, the intervention had a positive impact on the improvement of emotional regulation difficulties.

Concerning to percentage distribution of patient's suicidal ideation the finding of the present research revealed that slightly less than two-thirds of the participants under study have moderate suicidal ideation in the pretest, while less than three quarters and slightly less than two-thirds of them have low suicidal ideation in the immediate post- and follow-up test respectively. The reason might be explained by according to literatures, depression is a psychiatric disorder most frequently connected to suicide. Also, the studied patients were actively participated and attended the program sessions regularly and identified importance of acceptance and commitment intervention and its positive effect on suicidal ideation.

The previous results were supported by the results of **Borentain et al. (2020)** who informed that, patients with MDD have a greater suicide risk than the overall population, with almost 60% of those who have tried suicide having the illness. In the same context, **Cai et al. (2021)** added that the frequency of suicidal behavior, including attempts and suicidal ideation (SI and SA), is

more common in inpatients with MDD than without MDD.

Additionally, **Zanco (2017)** examined suicidal ideation in a group of depressive individuals and hypothesized that a sizable number (64%) of the tested samples had a moderate degree of suicidal thoughts. In addition, supporting findings with the present results were documented by **As'hab, Keliat, & Wardanim, (2022)** who reported that suicidal ideation average drops from 0.39 to 0.006 after participating in ACT sessions; The results show that there was a significant difference ($p < 0.008$) between the pre- and post-test.

The current study's findings demonstrated that there had been a significant decrease in the mean scores of difficulties in emotional regulation, suicidal ideation, with a high statistically significant difference among the study patients after the implementation of the acceptance and commitment program. The possible explanation for these outcomes was the fact that acceptance and commitment intervention is a useful strategy for treating depression in patients, improves psychological flexibility mainly by targeting experiential avoidance, increases acceptance of life's situations, and fosters a commitment to actions that align with one's values. Through ACT, people can learn to let go of intrusive ideas, embrace events rather than try to control them, strengthen their observer self rather than their conceived self, and give up experience avoidance.

The earlier findings were consistent with those of **Chen & Zhu (2019)**, who proposed that individuals with depressive disorders frequently have reduced psychological flexibility as a result of avoiding unpleasant events, which exacerbates depressive symptoms. Likewise, **McCracken, Farzaneh, Monica, & Brocki Karin, (2021)**

discovered that psychological flexibility is poor in depressed patients, which could be a factor in their depressive symptoms.

According to further research by **Yu GL, Liu, & Zhang, (2022)** ACT increases psychological flexibility in depressed patients by allowing them to practice techniques like acceptance and cognitive detachment. This may help patients by regulating their psychological flexibility.

In the same vein, **Ducasse et al. (2018)** investigated how well ACT works to control suicidal thoughts. The findings demonstrated a substantial reduction in despair, anxiety, frustration, and emotional issues following therapy. Additionally, **Ghadam et al. (2020)** looked at the effect of ACT treatment on lowering anxiety and depression symptoms as well as suicidal thoughts in quasi-experimental research. In the experimental group, ACT dramatically reduced depression symptoms, anxiety symptoms, and suicidal thoughts. Furthermore, reducing suicidal thoughts is an expected result since ACT has been shown to enhance psychological capital and emotion control in individuals with suicidal ideation (**Najafi & Arab, 2020**).

In the same context, **Bagheri-Sheykhangafshe, Arina Kiani, Savabi-Niri, Aghdasi, & Bourbour, (2022)** revealed in youths who had suicide thoughts, ACT dramatically improved emotion control (cognitive reappraisal and expressive suppression). The goal of ACT was to strengthen a person's psychological bond with their beliefs and feelings. People experience reduced levels of frustration, depression, and anxiety as a result, which lowers their likelihood of suicidal ideas and acts. In meta-analyses and systematic reviews of studies published in the last three years by **Beygi et al. (2023)** reported that ACT generally increases psychological flexibility, which

reduces the symptoms of anxiety and depression.

Findings from the present research showed a statistically significant positive correlation among difficulties with emotional regulation and suicidal ideations at the pre- and post-program. To explain such findings, it can be said that people who have difficulty in emotion regulation were more prone to make repeated attempts of suicide. The inability to control emotions might make it difficult to handle present relationship problems, which can then cause suicide thoughts and behaviors to occur more frequently.

These findings were concurrent with the outcomes of **Turton, Berry, Danquah, Green, & Pratt, (2022)** who reported that, overall emotion dysregulation and suicidal thoughts showed a strong positive connection ($r = .327, p = .010$).

Analogous research conducted by **Quintana-Orts et al. (2020)** researched the connection between regulating one's emotions and suicide thoughts. The study found a strong correlation between the regulation of emotions and suicidal thoughts. The author explained this result by saying that people with higher emotion regulation were more adept at managing circumstances in delicate conditions and experienced fewer suicidal thoughts. Within an additional research, **Baer, Spitznagel, Richmond, Tull, & Gratz, (2022)** investigated the connection between 362 young people's emotion control techniques and suicide thoughts. The findings showed an existing relation between the application of positive emotion control techniques and a decrease in young people's suicidal ideation-related thoughts and behaviors.

Conclusion

The current study findings concluded that there had been a significant decrease in the mean scores of difficulties in emotional

regulation and suicidal ideation after the implementation of the acceptance and commitment intervention program. These results proved that Acceptance and Commitment Therapy (ACT) is a useful intervention approach for people with depression because it enhances emotional regulation and lowers suicidal ideation.

Recommendations

- ACT may help individuals better control their emotions and have fewer suicidal thoughts. Thus, encourage the dissemination of as well as further research in acceptance and commitment intervention programs for the management of patients with MDD who have difficulty with emotional regulation and have frequent thoughts of suicide.
- ACT could be developed as an adjunctive strategy in programs for suicide prevention.
- An educational training program should be applied to teach and train staff nurses about strategies for ACT application with depressed patients.
- Further research with larger sample sizes is recommended.

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Conflict of Interests

Absence of any conflicts of interest exist was mentioned by the authors of this study.

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