

ORIGINAL

## Maintenance psychotherapeutic intervention designed for young people with major depressive disorder to prevent relapse

## Intervención psicoterapéutica de mantenimiento diseñada para jóvenes con trastorno depresivo mayor para prevenir recaídas

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### ABSTRACT

Major depression is one of the most disabling disorders affecting individuals at the biological, functional, and psychosocial levels. A thorough understanding of this nosological entity will allow healthcare professionals to provide more comprehensive and effective care to patients suffering from it. This research employed a descriptive, mixed-method approach. Literature searches were conducted in Scopus-indexed sources such as Scienedirect, PubMed, Medline, and Scielo, among others. Experts were consulted based on previously established criteria and processed using the Compensatory Fuzzy Logic method. The results provided a deeper understanding of the factors that influence depression in young people, among which individual factors such as emotional instability, low self-esteem, cognitive rumination, and a lack of coping styles stood out. A psychotherapeutic intervention protocol was developed based on the Acceptance and Commitment Therapy (ACT) model, with the goal of promoting flexibility, fostering emotional well-being, and fostering acceptance. The use of Compensatory Fuzzy Logic allowed us to prioritize the factors with the greatest therapeutic impact, facilitating the design of the protocol for young people in the city of Ambato. It was found that although social and environmental factors influence depression, it is important to pay special attention to internal factors such as cognitive-emotional and personality factors to achieve effective psychotherapy and treatment for major depression in young people and prevent relapses.

**Keywords:** Depressive State; Factors; Psychotherapy; Psychological Flexibility; Protocol; Youth.

### RESUMEN

La depresión mayor constituye uno de los trastornos más discapacitantes que afectan al individuo a nivel biológico, funcional y psicosocial. Conocer a profundidad esta entidad nosológica permitirá a los profesionales de la salud brindar una atención más integral y eficaz a los pacientes que la padecen. En la presente investigación se empleó una metodología mixta, de carácter descriptivo. Se realizaron búsquedas bibliográficas en fuentes indexadas a Scopus como Scienedirect, PubMed, Medline y Scielo entre otras. Se realizó una consulta a expertos basados en criterios establecidos previamente y procesados con el método de Lógica Difusa Compensatoria. Los resultados permitieron profundizar en el conocimiento de los factores que inciden en la depresión en jóvenes, entre los que se destacaron los factores individuales como la inestabilidad emocional, baja autoestima, rumiación cognitiva y la carencia de estilos de afrontamiento. Se elaboró un protocolo de intervención psicoterapéutica basado en el modelo de Terapia de Aceptación y Compromiso (ACT), con el objetivo de promover la flexibilidad, favorecer bienestar emocional y capacidad de aceptación. El uso de la Lógica Difusa Compensatoria permitió priorizar los factores de mayor impacto terapéutico, facilitando el diseño del protocolo para jóvenes en la ciudad de Ambato. Se pudo conocer que

aunque existen factores sociales y ambientales que condicionan la depresión, es importante prestar especial interés a los factores internos como los Cognitivos-Emocionales y Personológicos para lograr la efectividad en la psicoterapia y tratamiento a la depresión mayor en jóvenes, y evitar sus recaídas.

**Palabras clave:** Estado Depresivo; Factores; Psicoterapia; Flexibilidad Psicológica; Protocolo; Jóvenes.

## INTRODUCTION

Mental disorders are one of the most common causes of disability and have a negative impact on the biological and social aspects of an individual's life. Furthermore, if not detected in time, they lead to considerable losses in terms of health.<sup>(1)</sup> Among the most common mental illnesses are mood disorders, including major depressive disorder. This disorder is one of the leading causes of death by suicide worldwide.

Major depressive disorder is characterized by specific episodes lasting at least two weeks (although most episodes last much longer) involving clear changes in affect, cognition, and neurovegetative functions, and interepisodic remissions. A diagnosis can be made based on a single episode, although in most cases the disorder tends to be recurrent. The difference between normal sadness and the sadness of a major depressive episode should be carefully considered.<sup>(2)</sup>

The main feature of a major depressive episode is a period of at least two weeks during which there is depressed mood or loss of interest or pleasure in almost all activities. In children and adolescents, the mood is usually irritable rather than sad.<sup>(3)</sup> The patient must also experience at least four additional symptoms from a list that includes changes in appetite or weight and psychomotor activity, decreased energy, feelings of worthlessness or guilt, difficulty thinking, concentrating or making decisions, and recurrent thoughts of death or suicidal ideation, or suicide plans or attempts.<sup>(4)</sup>

Depression is a common illness worldwide, affecting an estimated 280 million people globally.<sup>(5)</sup> It is a major cause of functional disability and can become a significant health problem, especially when it is long-lasting and moderate to severe, causing suffering and disrupting work, school, and family activities.<sup>(6)</sup>

The 12-month prevalence of major depressive disorder in the United States is approximately 7 %, with notable differences between age groups, such that the prevalence in individuals aged 18 to 29 is three times higher than in patients aged 60 or older. Women have rates that are 1,5-3 times higher than men, with the disorder beginning in early adolescence.<sup>(2)</sup>

Among the risk factors described in the literature, neuroticism (negative affectivity) is a well-established factor for the onset of depressive disorder, and at high levels, it makes individuals more prone to developing depressive episodes in response to stressful life events.<sup>(7)</sup> Adverse childhood experiences, especially when they are multiple experiences of various types, constitute a powerful set of risk factors for developing major depressive disorder. Stressful life events are also widely recognized as precipitating factors for this disorder.<sup>(2)</sup>

It is estimated that 300 million people worldwide suffer from depression. Depression is known as the leading cause of disability (7,5 % of years lost from work in 2015) and is the leading precursor to deaths caused by suicide.<sup>(8)</sup> People diagnosed with depression have a 40-60 % higher risk of dying prematurely. Depression is also linked to cardiovascular problems, diabetes, and the onset of other disorders such as those caused by substance use.<sup>(9)</sup>

In Ecuador, there are various psychosocial and structural factors that hinder both the continuity of treatment and the maintenance of therapeutic gains achieved by people with a history of major depressive disorder. One of the main obstacles is the persistent stigma surrounding mental health, which affects not only those living with psychological disorders, but also their family, academic, and work environments. This stigma translates into a delay in seeking help, a devaluation of treatment, and a minimization of the severity of symptoms.<sup>(10)</sup>

Hence the importance of designing interventions tailored to the local environment, capable of promoting autonomous and sustainable coping skills beyond acute treatment. In this scenario, Acceptance and Commitment Therapy (ACT) presents itself as a particularly suitable alternative, as it promotes psychological flexibility in an often adverse environment.

### General Objective

Design a clinical maintenance protocol based on ACT, aimed at young people aged 18 to 25 in the city of Ambato who have experienced major depression.

### Specific Objectives

1. Determine the factors that influence the etiology and maintenance of major depressive disorder.
2. Analyze the factors found using Compensatory Fuzzy Logic.
3. Establish the basis for the development of the therapeutic protocol.

## METHOD

A mixed, descriptive, and longitudinal design was used, based on scientific literature and national epidemiological data. A review was conducted by searching the PubMed, Scielo, and ScienceDirect databases. Articles were selected from indexed journals in English and Spanish from 2020 to 2025. Analysis of the literature consulted allowed us to identify the factors that enable or trigger depression and its recurrence in young patients.

Experts were consulted to determine the factors with the highest incidence in the etiology of depression in young people and the most relevant aspects to be addressed in the development of a maintenance protocol for the target sample.

The experts with whom the analysis was carried out were selected based on the following criteria:

- Be mental health professionals
- Have more than 10 years of clinical experience in youth mental health
- Have experience in managing cases of depression, as well as up-to-date knowledge of therapies or other advanced techniques
- Willingness to participate in the research

The Compensatory Fuzzy Logic (CFL) method was used for decision-making, the methodology of which is described below:

Compensatory Fuzzy Logic (CFL): a branch of Fuzzy Logic created by the multidisciplinary scientific group Business Management in Uncertainty: Research and Services (GEMINIS) of the José Antonio Echeverría Higher Polytechnic Institute (ISPJAE) in Havana, Cuba. Dr. Rafael Espín Andrade, professor at the ISPJAE, is one of its most representative leaders. In general, it can be said that it is a new multivalent system that breaks with traditional axiomatics to achieve semantically better behavior than the classics.<sup>(11)</sup>

It uses mathematical operators that guarantee the effective combination of intangible elements evaluated by experts, considering categorical scales of truthfulness, with quantitative information that provides truth values through predicates conveniently defined from such information:

**Table 1.** Presentation of mathematical operators in LCD predicate logic

| Operators   | Predicate logic |
|---|-----------------|
| Conjunction   | (and), c,       |
| Disjunction   | (or), d,        |
| Strict fuzzy order                                  | (or)            |
| Negation  | (not)           |
| <b>Note:</b> Vega-de-la-Cruz et al. <sup>(12)</sup> |                 |

They range from  $[0,1]^n$  in  $[0,1]$ , or range from  $[0,1]^2$  in  $[0,1]$  and  $n$  from  $[0,1]$ [11]. This satisfies the following axioms:

1.  $\min(x_1, x_2, \dots, x(n)) \leq d(x(1), x(2), \dots, x(n)) \leq \max(x_1, x(2), \dots, x(n))$  (Compensation Property).
2.  $d(x_1, x_2, \dots, x(n)) = d(x(1), x(2), \dots, x(n))$  (Commutativity or Symmetry Property).
3. If  $x_1 = y_1, x_2 = y_2, \dots, x(i) - 1 = y(i) - 1, x(i) + 1 = y(i) + 1, \dots, x(n) = y(n)$ , such that none are zero, and  $x_i > y_i$ , then  $d(x_1, x_2, \dots, x(n)) > d(y(1), y(2), \dots, y(n))$  (Strict Growth Property)
4. If  $x_i = 1$  for some  $i$ , then  $d(x_1, x_2, \dots, x(n)) = 1$  (Veto Property)
5.  $c(x_1, x_2, \dots, x(n)) = d(x(1), x(2), \dots, x(n)) = x$  (Idempotence property)

The use of sigmoid membership functions is recommended for increasing or decreasing functions, for modeling vagueness. This is also achieved through linguistic variables, which allow expert knowledge to be leveraged. These linguistic variables are based on scales such as those shown in table 2.

**Table 2.** Scales of linguistic variables

| Truth values | Category             |
|--------------|----------------------|
| 0            | False                |
| 0,1          | Almost false         |
| 0,2          | Quite false          |
| 0,3          | Somewhat false       |
| 0,4          | More false than true |
| 0,5          | As true as false     |

|  |                      |
|--|----------------------|
| 0,6  | More true than false |
| 0,7  | Somewhat true        |
| 0,8  | Quite true           |
| 0,9  | Almost true          |
| 1  | True                 |
| Note: Vega-de-la-Cruz et al. <sup>(12)</sup> |                      |

### Calculation of statistical coefficients

The coefficient of agreement (Cc) is used to determine the degree of consensus among experts on the subject. Equation 4 is used for this purpose.

$$Cc = (1 - \frac{Vn}{Vt}) * 100 \quad (1)$$

Where

Vn: Number of experts against the prevailing criterion.

Vt: Total number of experts.

Empirically, if  $Cc \geq 75\%$ , then the agreement is considered acceptable. Components with Cc values  $< 75\%$  are eliminated due to low agreement or little consensus among the experts.

The coefficient of variation (Cv) of the predicates will be calculated using equation 2, applying statistical decision criteria according to the following parameters:

If  $Cv \geq 0,20$ , take the modal value (the rating given by the experts that is most repeated in the analyzed range).

If  $Cv < 0,20$ , take the arithmetic mean value (average rating of the experts)

$$Cv = \frac{S}{X_{med}} \quad (2)$$

S: Standard deviation of the data

$X_{med}$ : Mean of the data

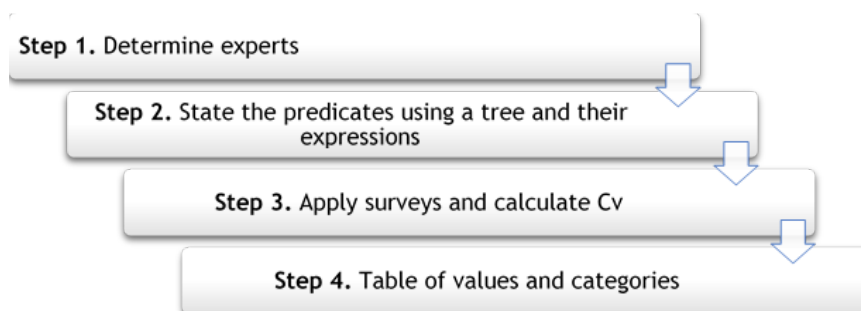


Figure 1. Steps for applying the LDC

## RESULTS

In this study, after conducting a literature search in sources indexed in Scopus and international medical reference sites, and drawing on professional experience and available scientific evidence, a summary was made of the factors involved in depressive episodes in patients with this condition.

In some cases, some manifestations are more frequent than others, but generally those summarized were the most frequent, both internally and externally. Internal factors include personality, cognitive-emotional, and behavioral factors. External factors include social and structural factors of the healthcare system. Next, the analysis will be carried out by consulting experts and applying Compensatory Fuzzy Logic.

### Predicates and their linguistic translation

DSJ(x)=Severe Depression in Young People

NI(x) = Internal Level

NE(x) = External Level

FP(x)=Personological Factors

$FCE(x)$  = Cognitive-Emotional Factors  
 $FC(x)$  = Behavioral Factors  
 $FS(x)$  = Social Factors  
 $FESS(x)$  = Structural Health System Factors  
 $BA(x)$  = Low Self-Esteem  
 $IE(x)$  = Emotional Instability  
 $PD(x)$  = Dependent Personality  
 $RC(x)$  = Cognitive Rumination  
 $EAD(x)$  = Deficient Coping Styles  
 $EAN(x)$  = Negative Attributional Style  
 $EEV(x)$  = Stress related to life events  
 $CS(x)$  = Substance use  
 $SRAF(x)$  = Separation from Family Support Networks  
 $PES(x)$  = Persistent Social Stigma  
 $PAL(x)$  = Academic or Work Pressure  
 $OES(x)$  = Other social stressors  
 $ECT(x)$  = Poor therapeutic continuity  
 $IInf(x)$  = Insufficient Community Mental Health Infrastructure  
 $AL(x)$  = Absence of Mental Health Legislation

### Expressions for calculating simple and compound predicates

$DSJ(x) = NI(x) \wedge NE(x)$   
 $NI(x) = FP(x) \wedge FCE(x) \wedge FC(x)$   
 $NE(x) = FS(x) \wedge FESS(x)$   
 $FP(x) = BA(x) \wedge IE(x) \wedge PD(x)$   
 $FCE(x) = RC(x) \wedge EAD(x) \wedge EAN(x) \wedge EEV(x)$   
 $FC(x) = CS(x)$   
 $FS(x) = SRAF(x) \wedge PES(x) \wedge PAL(x) \wedge OES(x)$   
 $FESS(x) = ECT(x) \wedge IInf(x) \wedge AL(x)$

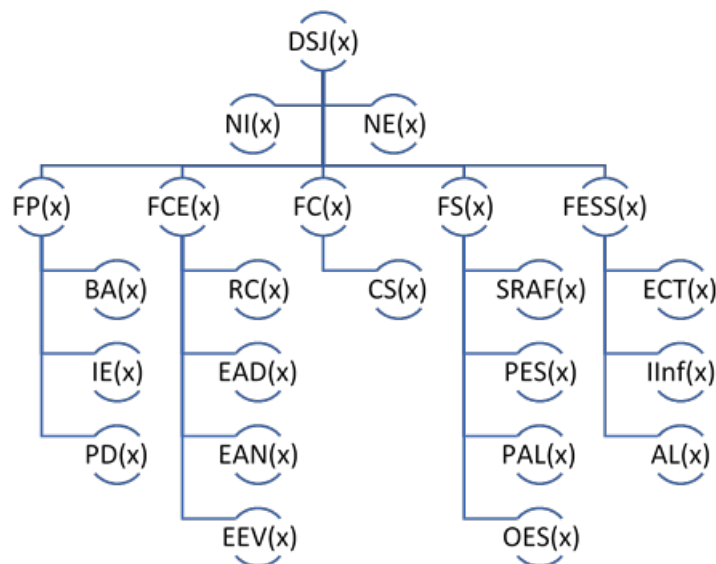


Figure 2. Predicate tree

| Table 3. Expert evaluation |     |     |     |     |     |     |     |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|
| Simple predicates          | E1  | E 2 | E 3 | E4  | E5  | E6  | E7  |
| BA(x)                      | 1   | 1   | 0,9 | 0,9 | 0,9 | 1   | 0,8 |
| IE(x)                      | 0,9 | 0,9 | 0,9 | 1   | 1   | 1   | 1   |
| PD(x)                      | 1   | 1   | 0,9 | 0,9 | 0,9 | 0,8 | 1   |
| RC(x)                      | 0,9 | 0,9 | 1   | 1   | 0,7 | 0,7 | 0,9 |
| EAD(x)                     | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| EAN(x)                     | 0,9 | 0,7 | 0,9 | 0,7 | 0,9 | 0,7 | 0,8 |

|         |     |     |     |     |     |     |     |
|---------|-----|-----|-----|-----|-----|-----|-----|
| EEV(x)  | 0,9 | 0,8 | 0,5 | 0,7 | 0,9 | 0,7 | 0,8 |
| CS(x)   | 0,7 | 0,7 | 0,6 | 0,6 | 0,7 | 0,7 | 0,9 |
| SRAF(x) | 0,9 | 0,7 | 0,9 | 0,5 | 0,9 | 0,7 | 0,7 |
| PES(x)  | 0,7 | 0,5 | 0,5 | 0,7 | 0,9 | 0,5 | 0,7 |
| PAL(x)  | 0,8 | 0,9 | 0,9 | 0,8 | 0,9 | 0,7 | 0,7 |
| OES(x)  | 0,7 | 0,5 | 0,9 | 0,7 | 0,5 | 0,9 | 0,7 |
| ECT(x)  | 0,9 | 0,9 | 1   | 1   | 0,7 | 0,7 | 0,9 |
| lInf(x) | 0,9 | 0,9 | 0,9 | 0,9 | 0,9 | 0,9 | 0,9 |
| AL(x)   | 0,8 | 0,8 | 0,8 | 0,7 | 0,8 | 0,7 | 0   |

Table 4. Calculation of truth values for simple predicates

| Predicates | Mode | Mean  | Truth value | Category       |
|------------|------|-------|-------------|----------------|
| BA(x)      | 1    | 0,929 | 0,929       | Almost true    |
| IE(x)      | 1    | 0,957 | 0,957       | Almost true    |
| PD(x)      | 1    | 0,929 | 0,929       | Almost true    |
| RC(x)      | 0,9  | 0,871 | 0,871       | Quite true     |
| EAD(x)     | 1    | 1     | 1,000       | True           |
| EAN(x)     | 0,9  | 0,800 | 0,800       | Fairly true    |
| EEV(x)     | 0,9  | 0,757 | 0,757       | Somewhat true  |
| CS(x)      | 0,7  | 0,7   | 0,7         | Something true |
| SRAF(x)    | 0,9  | 0,757 | 0,757       | Something real |
| PES(x)     | 0,7  | 0,643 | 0,7         | Something true |
| PAL(x)     | 0    | 0,814 | 0,814       | Quite true     |
| OES(x)     | 0,7  | 0,7   | 0,7         | Somewhat true  |
| ECT(x)     | 0,9  | 0,871 | 0,871       | Quite true     |
| lInf(x)    | 0    | 0,9   | 0,9         | Almost true    |
| AL(x)      | 0,8  | 0,742 | 0,742       | Somewhat true  |

Table 5. Calculation of truth values for compound predicates

| Compound predicates | Truth value   |
|---------------------|---------------|
| DSJ(x)              | Almost True   |
| NI(x)               | Almost True   |
| NE(x)               | Mostly true   |
| FP(x)               | Almost true   |
| FCE(x)              | Fairly true   |
| FC(x)               | Somewhat true |
| FS(x)               | Almost true   |
| FESS(x)             | Quite true    |

The analysis provided by the specialists consulted made it possible to establish an order of priority among the factors that determine the onset of depression, which facilitated the decision-making process. It was possible to identify the aspects with the highest categories of truthfulness, which were closer to the ideal solution, with internal factors receiving the highest scores. The specialists also contributed their knowledge based on the factors or aspects that are most difficult to treat therapeutically, which were taken into consideration in the development of the protocol.

Among the essential aspects to be addressed in the therapeutic approach to patients with depression, it is important to work on and strengthen internal factors. The author of this research, based on professional practice, points out that although environmental and social factors may greatly influence the recurrence of depressive episodes, it is essential to strengthen internal elements such as personality, the individual's belief system, and emotional development. It should be considered that external agents are often beyond the patient's control, but the way in which they react to them is entirely under their control.



For decades, mental illness has been stigmatized and, in certain cultures, discriminated against. Scientific advances have helped to dispel certain myths, and more people are now concerned about their health and seeking emotional well-being through therapy. It is therefore essential to train healthcare professionals and provide them with up-to-date tools for the comprehensive management of patients, not only those who are ill, but also focusing on the prevention of the onset of the disorder itself or possible relapses.

Acceptance and Commitment Therapy offers variability in its modality and allows the therapist to focus on achieving goals by offering the patient a better version of themselves. Promoting the capacity for acceptance and the need for transformation and commitment to oneself are key factors in improvement. Therefore, in this research, a protocol has been developed, which will be described below.

The aim of this protocol is to design a maintenance plan based on Acceptance and Commitment Therapy (ACT),<sup>(13,14)</sup> aimed at young adults between the ages of 18 and 25 with a history of severe depression previously treated with Cognitive Behavioral Therapy (CBT), in order to promote psychological flexibility, prevent relapses, and promote sustained emotional well-being.

### Specific objectives

1. Strengthen psychological flexibility in participants through the integration of techniques based on acceptance, cognitive defusion, and committed action.
2. Identify personal values and promote behaviors aligned with those values as a guide for meaningful post-treatment life.
3. Develop mindfulness skills and contact with the present moment to improve emotional regulation and reduce experiential avoidance patterns.
4. Evaluate indicators of positive maintenance and early detection of relapse using validated scales and qualitative interviews.
5. Promote functional coping strategies for internal events (thoughts, emotions) without the need to eliminate psychological distress.

The protocol will be implemented by a team of mental health professionals trained in Acceptance and Commitment Therapy (ACT), composed of clinical psychologists and therapists certified in mindfulness-based interventions and third-generation therapies.<sup>(15)</sup> Facilitators must have experience working with young adults and prior training in group therapy, as the intervention format is group-based, experiential, and experiential.

The program will be implemented in coordination with educational institutions or community mental health centers in Ambato, which will provide the physical space, logistical resources, and administrative support necessary for the sessions.

For the formation of intervention groups, an estimated range of six to ten participants per cohort is established. This number allows for a balance between meaningful group interaction and personalized attention, favoring active participation, individual process monitoring, and the development of experiential exercises in a contained and manageable environment.

**Table 6.** Agents involved in the implementation of the protocol

| Agent                    | Role                                 | Main duties  |
|--------------------------|--------------------------------------|--|
| Lead therapist           | Group facilitator                    | Lead group sessions.<br>Apply ACT techniques.<br>Perform clinical follow-up.       |
| Co-therapist / assistant | Technical and clinical support       | Assist in group dynamics.<br>Record observations.<br>Provide individual support.   |
| Clinical supervisor      | Therapeutic quality control          | Weekly supervision.<br>Case review.<br>Ethical and technical support.              |
| Partner institution      | Institutional and logistical support | Providing space.<br>Call for participants.<br>Coordinate material resources.       |
| Participants             | Beneficiaries of the protocol        | Actively attend.<br>Participate in sessions.<br>Apply strategies between sessions. |

The specific content of each session of the protocol is presented below, structured around the six core processes of Acceptance and Commitment Therapy (ACT).<sup>(13,15)</sup> Each session integrates practical techniques designed to strengthen psychological flexibility and promote the maintenance of therapeutic gains achieved during the acute phase of treatment.

Table 7. Detailed contents by session

| Sessions                                      | Objective  | Techniques   | Homework  |
|---|--|--|---|
| 1: Introduction to the ACT protocol and model | Provide psychoeducation on severe depression, explain the psychological flexibility model (Hexaflex), and present the structure of the protocol.           | Participatory explanation of the ACT model and its six processes. Group dynamic: "Expectations and personal commitment." Presentation of the group therapeutic contract.   | Brief journal about the most frequent thoughts and emotions during the week.            |
| 2: Accepting discomfort                       | Encourage active acceptance of difficult thoughts and emotions without trying to avoid or suppress them.   | Experiential exercise: "Making space" (allowing an uncomfortable emotion to take up space without fighting it). Guided discussion on the consequences of experiential avoidance. Metaphor: "The unexpected guest" (accepting the arrival of thoughts/emotions as visitors).  | Guided acceptance practice with 10-minute audio.  |
| 3: Cognitive defusion                         | Teach strategies for observing thoughts as mental events, reducing their impact and power of control.  | Exercise: "Leaf in the stream" (visualize thoughts floating in a river). Verbal exercise: "Repeat word" (repeat a key thought until it loses its emotional charge). Group reflection on the influence of automatic thoughts.   | Apply defusion techniques at least twice a day, recording the experience in a journal.  |
| 4: Contact with the present moment            | Develop mindfulness skills to improve mindfulness and emotional regulation.  | Formal mindfulness practice: "Mindful breathing" (10 minutes guided). Open awareness exercise: "Body scan." Group discussion on the importance of mindful presence in relapse prevention.  | Daily mindfulness practice (audio recording provided).                                  |
| 5: Me as context                              | Promote the construction of a flexible perspective of the "self" that allows one to observe internal experiences without identifying completely with them. | Guided exercise: "The constant observer" (identifying the part of oneself that is always present). Metaphor: "The chessboard" (the difference between the pieces that fight and the board that contains them). Activity: Share experiences of moments when you felt "swept away" by an emotion and how you could have observed it from a distance. | Reflect in writing on difficult situations and the perspective of the "observing self." |
| 6: Clarification of values                    | Facilitate the identification of personal values and their role as a compass to guide meaningful actions.  | Exercise: "Wheel of life" (identify vital areas and key values in each). Visualization: "The funeral" (imagine how you would like to be remembered to identify essential values). Group discussion on the differences between values and goals.  | Establish three micro actions aligned with the identified values.                       |
| 7: Committed action                           | Help participants turn their personal values into concrete and sustainable actions, even in the presence of emotional distress.                            | Behavioral planning: Develop a weekly action plan (based on values). Barrier analysis: Identification of internal and external obstacles and strategies to overcome them. Metaphor: "The garden" (cultivating values as if tending a garden).  | Carry out at least one committed action and record the experience.                      |



|                                       |   |  |   |
|---------------------------------------|---|--|---|
| 8: Integration and relapse prevention | Integrate the lessons learned from the protocol and establish a personalized relapse prevention plan. | Group review of progress and key learnings.<br>Development of a “Personal relapse prevention map” (identify early warning signs and coping strategies).<br>Close with a symbolic exercise: “Letter to my future self.” | Continue independent maintenance and follow-up practices. |
|---------------------------------------|---|--|---|

**Table 8.** Weekly intervention schedule based on Acceptance and Commitment Therapy (ACT) processes

| Week | Session topic                           | Main ACT process             | Specific objective                             |
|------|---|------------------------------|--|
| 1    | Introduction and psychoeducation on ACT | Hexaflex model               | Understand the structure of the protocol       |
| 2    | Acceptance of emotional distress        | Acceptance                   | Reducing experiential avoidance                |
| 3    | Cognitive defusion                      | Cognitive defusion           | Change relationship with thoughts              |
| 4    | Mindfulness and mindfulness             | Contact with the present     | Improve emotional regulation                   |
| 5    | The self as context                     | The self as context          | Build a flexible perspective of oneself        |
| 6    | Clarification of values                 | Clarification of values      | Identifying purpose and direction in life      |
| 7    | Committed action                        | Committed action             | Convert values into meaningful behavior        |
| 8    | Integration and relapse prevention      | Integration of ACT processes | Consolidating learning and planning prevention |

## DISCUSSION

In the case of university students, research conducted at the Faculty of Law of the Technical University of Ambato identified several psychosocial factors that influence mental health. Family factors include low self-esteem, a family history of mental illness, family breakdown, early pregnancy, and marital conflict. In addition, academic factors were identified, such as social stressors, learning and behavioral difficulties, unexpected situations that affect motivation, academic workload, stress from assignments and exams, and difficulties adapting to university life.<sup>(16)</sup> These data are consistent with those found in the present study.

The research on “Major depressive disorder: hypothesis, mechanism, prevention, and treatment” coincides with the data found in the present study. The authors pointed out that, in the psychosocial aspect, factors such as low economic status, which sometimes forces young people to drop out of school to work, family expectations, and substance abuse were conditioning factors in the onset of depressive disorder. At the individual level, stress related to life events and the lack of adequate coping strategies are associated with emotional problems such as major depression.<sup>(17)</sup>

According to a study on “Acceptance and Commitment Therapy (ACT) in older adults with symptoms of mood disorders,” the authors suggested that ACT is an intervention model that seeks to help older adults accept their thoughts and feelings and direct them toward their values. In the three studies presented in their article, they indicated that intervention protocols based on acceptance and commitment therapy (ACT), both individually and in groups, benefit participants, who demonstrate significant clinical changes and relief from the distress and suffering they may be experiencing.<sup>(18)</sup>

## CONCLUSIONS

Major depression is one of the causes of disability in young people and adults, with a high probability of relapse.

The use of Compensatory Fuzzy Logic allowed us to prioritize the factors with the greatest impact on the onset of depressive disorder, with internal factors such as low self-esteem, poor coping style, and emotional instability or neuroticism being the most important to treat.

The maintenance protocol, based on Acceptance and Commitment Therapy (ACT), is an innovative and necessary approach for the prevention of relapse in young adults aged 18 to 25 with a history of severe depression previously treated with Cognitive Behavioral Therapy (CBT). The protocol has been designed to strengthen psychological flexibility, which is key to relapse prevention, and to encourage action committed to personal values.

The protocol offers a clear, progressive structure adapted to the needs of the target population, integrating experiential techniques and practical exercises aligned with the six core processes of ACT.

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