

## Third-generation stress reduction interventions for people with chronic diseases: a theoretical review

Intervenciones de tercera generación para disminución de estrés dirigido a personas con enfermedades crónicas: una revisión teórica

*Miriam Anel Ordaz-Cruz<sup>a</sup>*

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### Abstract:

In this article, a theoretical review was carried out from 2014 to 2021 on interventions based on third generation therapies for stress reduction aimed at people with chronic diseases, the objective was to find the efficacy of interventions such as mindfulness and therapy of acceptance and commitment, a search was made for articles related to contextual therapy interventions to reduce stress in people with chronic degenerative diseases and research was found that demonstrates its effectiveness with programs to reduce stress, taking the premise of not disappearing the pain or avoid it, but accept it and generate strategies for coping.

### Keywords:

*Chronic diseases, chronic pain, stress, contextual therapies, mindfulness, acceptance and commitment therapy*

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### Resumen:

En el presente artículo se trabajó una revisión teórica desde el año 2014 al 2021 sobre las intervenciones basadas en terapias de tercera generación para disminución de estrés dirigido a personas que presentan enfermedades crónicas, el objetivo fue encontrar la eficacia sobre intervenciones como el mindfulness y la terapia de aceptación y compromiso, se hizo una búsqueda de artículos relacionada a las intervenciones de terapias contextuales para disminuir el estrés en personas con enfermedades crónicas degenerativas y se encontraron investigaciones que demuestran su eficacia con programas para disminución del estrés, tomando la premisa de no desaparecer el dolor ni evitarlo, sino aceptarlo y generar estrategias para su afrontamiento.

### Palabras Clave:

*Enfermedades crónicas, dolor crónico, estrés, terapias contextuales, mindfulness, terapia de aceptación y compromiso*

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## INTRODUCTION

Chronic diseases, also known as non-communicable diseases, are long-term and slow-growing; among the main mortality diseases in the world are diabetes, respiratory and heart diseases, cancer, and heart attacks. In 2008, 36 million people died of chronic disease; 18 million of them were female, and 29% were under 60 years of age, which shows us the seriousness of the population that has a chronic disease (World Health Organization [WHO], 2021).

According to the WHO (2021), chronic diseases are the most significant cause of death in the world since they concern 63% per year, equivalent to 36 million people and reflecting 80% of deaths from chronic diseases in countries with low and medium resources.

The Pan American Health Organization reports that chronic non-communicable diseases (CNCDs) have become the leading cause of death and disability in the world, affecting physical and mental health and generating a need for long-term treatment (Pan American Health Organization Health [PAHO], 2021).

Among the modifiable behavioral risk factors are excessive consumption of tobacco alcohol, sedentary lifestyle and poor diet, and metabolic risk factors such as increased blood pressure, overweight, and obesity, and hyperlipidemia, degrading quality of life of the subject suffering from some NCD (PAHO, 2021).

Risk factors such as anxiety, depression and anger, social isolation, poor communication, resistance to change, irrational beliefs, and hopelessness can also be found; in contrast, the protective factors are knowledge and causes of the disease,

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<sup>a</sup> Corresponding author, Centro Estatal de Justicia Alternativa, <https://orcid.org/0000-0001-5929-4355>, Email: [anel.psic10@gmail.com](mailto:anel.psic10@gmail.com)

adherence to medical and therapeutic treatment, resilience and hope. Others may be treatments that cause physical wear, physical disabilities, stress, doctor-patient relationship, and family relationships (Grau, 2016).

Studies carried out refer to the fact that 41 million people die each year, of which 15 million are between 30 and 69 years old. Worldwide, 17.9 million die each year from cardiovascular diseases, 9 million from cancer, 3.9 million from respiratory diseases, and 1.6 million from diabetes (PAHO, 2021).

According to the data provided by the National Institute of Statistics and Geography (INEGI, 2020), the main causes of morbidity care in particular places were: pregnancy, childbirth, and puerperium; digestive system diseases; trauma, poisoning, and some other consequences of external causes; diseases of the respiratory system and diseases of the genitourinary system, with 2,855 private establishments in the Mexican territory.

In 2019, the first cause of death corresponded to diseases related to the circulatory system 4,279 (24.0%), the second to diseases of the respiratory system 2,712 (15.1%), and the third cause of hospital deaths were due to tumors or neoplasms 2 166 (12.2 percent). Regarding hospital discharges, 6 women and 4 men out of 10 refer; there are no statistics referring in their entirety to non-communicable chronic degenerative diseases.

In the 20 causes of disease National, by age groups United Mexican States 2019 in the General Population and taking only NCDs into account, it is evident in the suffering of Acute respiratory infections with a total of 23778438, asthma with 254713, Intestinal infections by other organisms and poorly defined with a total of 5,360,604, obesity with 677,075, high blood pressure with 543,933 and non-insulin-dependent diabetes mellitus (Type II) with 438,393 people. And taking into account the same diseases now only applied to the state of Hidalgo, we find in the suffering of acute respiratory infections with a total of 646030, asthma 3955, intestinal infections by other organisms, and those poorly defined with a total of 78643, obesity with 16560, arterial hypertension 10028 and non-insulin-dependent diabetes mellitus (Type II) 8656 people (Government of Mexico, 2021).

One of the challenges for the health system worldwide is the treatment of chronic non-communicable diseases NCDs because they currently affect the entire population; one of the studies carried out proves that premature deaths can be transmitted from conception by hypertension, type 2 diabetes, and smoking in the mother during pregnancy (Serra et al., 2018).

In the year 2012, Ruíz mentioned the impact on the knowledge of having an NCD derives the importance of taking medical and psychological treatment to face the various interrelated factors with the subject who suffers from it and its context.

Research reports that more than 40% of people who go to a hospital for suffering from NCDs have emotional disturbances and adjustment problems, of which less than 20% receive some kind of psychological evaluation and intervention (Friedman &

DiMatteo, 1989; Taylor & Aspinwall, 1990; Grau, 2013 as cited in Grau 2016).

According to Grau (2016), people who suffer from some type of NCD generate a great change in their lifestyle, degrading their social participation and increasing their levels of stress and emotional dysregulation. Because NCDs are long-lasting, emphasis should be placed on learning to live with them, going through a crisis in personal life, and requiring training to adhere to treatment and self-care, starting from the acceptance of the disease to improve their quality of life.

It is of the utmost importance that both the patient and the relatives learn about the disease and be able to modify their attitude and behavior towards them. Although it is complicated for the doctor and other professionals involved with patients who present a non-communicable chronic degenerative disease to choose a model or theory for behavior change, some have been used to educate the chronic patient, such as the theory of self-efficacy and learning social, goal setting, motivational interviewing, transtheoretical model, behavior change and health belief model (Ruíz, 2012).

The objective of this article is a theoretical review on interventions based on contextual therapies taking acceptance and commitment therapy and mindfulness ("full attention") for stress reduction and emotional regulation in people with chronic non-communicable diseases; that medical treatment is not enough but also psychological.

## **METHOD**

A theoretical review was carried out, searching in databases such as books, electronic journals Dialnet, Psychology and Health, Redalyc, Psycology, Scielo, PSYCONEX, Health and Society, Psychogeriatrics, Argentine Journal of Behavioral Sciences, Mexican Journal of Research in Psychology, Finlay, International Journal of Developmental and Educational Psychology, Research Journal, WEB pages such as the Government of Mexico, World Health Organization, Pan American Health Organization, National Institute of Statistics and Geography, Geriatricarea, Konrad Lorenz University Foundation Repository of the Autonomous University of Madrid, Repository of the Autonomous University of Bucaramba, Jaume I University, Faculty of Health Sciences, University of Jaén, Miguel Hernández Universities, University of Almeria, Autonomous University of Barcelona, Austral University, COOPERATIVE University of Colombia, Universidad San Francisco de Quito, College of Social Sciences and Humanities using chronic diseases, chronic pain, contextual therapies, stress, mindfulness, acceptance and commitment therapy as keywords, approximately 1790 articles were found, of which approximately 1710 were discarded because they did not meet the required criteria such as the impact of interventions of contextual therapies applied to people suffering from a chronic disease.

## **RESULTS**

The World Health Organization defines chronic diseases as long-term and delayed progression; among the main diseases of mortality in the world are diabetes, respiratory and heart diseases, cancer, and heart attacks; they are currently also known as chronic diseases, not communicable.

Since the 19th century, different models have been studied in relation to chronic diseases; this is how in the 20th century, there has been an increase in people with chronic conditions and different institutions for research arise, being in the year 1946 when it was created the Commission on Chronic Illness in the United States, which defines chronic disease as one that includes deterioration or deviations from normal and that presents any of the following characteristics: permanent, has some degree of disability, irreversible pathological alterations, needs treatment special and continuous for a long period (Commission on Chronic Illness, 1957; as cited in Bravo, 2014).

The concept of chronic-degenerative is divided into two Greek words, the first CHRONOS, whose meaning is directed to long-duration leading to permanent diseases, and the second directed to DEGENERATION, referred to degenerate (Castañeda, 2006; as cited in Bravo, 2014).

The chronic patient can present chronic pain; as Tarrero et al. (2019) mention, therapeutic interventions aimed at chronic pain will emphasize biopsychosocial aspects; however, the brain can be modified with experience due to the ability to relearn behaviors and have a better adaptation can also generate changes with the chronification of pain; Based on different investigations, it has been found that the most used therapies in the intervention of chronic diseases are: cognitive-behavioral therapies, behavior, Mindfulness and Acceptance, and Commitment Therapy, the last two mentioned are interventions of the third generation and not they seek to cure chronic pain but to the acceptance of it.

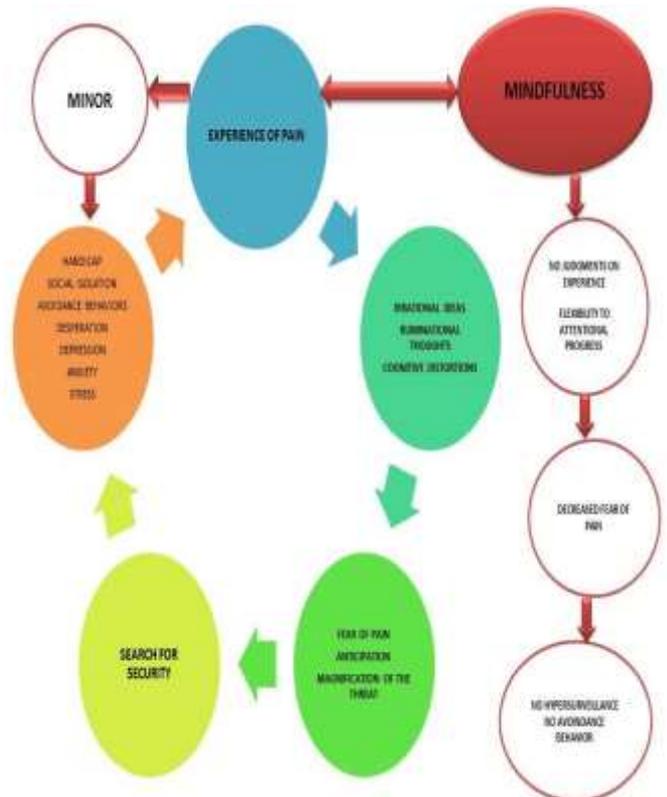


Figure 1. Experience of pain and application of Mindfulness.

Representation of the mechanisms that modulate the perception of chronic pain and the role of mindfulness in perceptual change (Tarrero et al., 2019, adapted by Ordaz, 2021).

**Stress and chronic illness**

The origin of the term stress has been mentioned in the concept of Selye (1936) flight or flight, insofar as his studies emphasize the functional relationships between stimuli and responses to describe the subject's reactions to stressful events (Lazarus, 1966; 1981; Lazarus & Folkman, 1984; Folkman & Lazarus, 1985; Levanthal and Nerenz, 1983, as cited in Reynoso & Becerra, 2014) propose studying stress as a process, and calling coping which means coping or coping. The stress and coping model was adapted by psychologists since illnesses generate stress. Since 1971, psychological interventions have been carried out to solve problems, according to D'Zurrilla and Nezu in 1999 and stress reduction mentioned by Meichenbaum in 1981; Interventions are being directed so that the person suffering from an NCD copes with the medical problem that they suffer from, such as reducing the physiological events of stress and therefore anxiety and their emotions.

In stress, there is an intervention of thought and search for alternatives that will evaluate a situation as dangerous or not, determining stressors as responses in relation to their perception, which can be acute or chronic (Reynoso & Becerra, 2014).

According to Reynoso & Ávila (2014), behavior can alter physiological processes and cause alterations to have behaviors that help the functioning of the organism and delay the disease.

People with chronic pain increase irrational beliefs, generating greater stress and leading to avoidance behaviors.

People diagnosed with a non-communicable chronic degenerative disease can be perceived as more vulnerable in the different contexts where they develop, presenting as a consequence an increase in stress, anxiety, and depression (Corral, 2017).

In the year 1982, Selye (cited in Pavia, 2017) refers to 3 phases in which stress occurs; the first is called the alarm phase generated by a stress factor that activates the heartbeat, accelerating them, and the second phase is the resistance which is presented while stress is adjusted and the third phase is designated as fatigue, which is the tension that is maintained for a long period of time leading to the possibility of developing diseases. Therefore, stress will occur as a result of the interaction between the person and their context, which can be perceived as dangerous, challenging, and threatening.

### ***Behavioral medicine***

As it began to be noticed that chronic diseases were on the rise and therefore coping with them increased the need to regulate behaviors, psychology began to propose the re-education of the same behaviors; This is how Behavioral Medicine emerged as an interdisciplinary specialty and developed its work model in cause-effect, and stimulus-response relationships in the latter, the principles of conditioning and its relevance in behavior are demonstrated, allowing the evidence of doctors in relationships with chronic diseases (Reynoso, 2014).

In the definition of behavioral medicine referred to by Arroyo et al. (2013; cited in Reynoso 2014), he mentions it as the interdisciplinary field of research and clinical practice where it focuses on the interactions between the context where it develops and showing that behavior can cause diseases and these modify behavior in their context taking into account their thoughts, beliefs, emotions, and feelings, related to the cure, the family, the doctors involved and death.

Behavioral medicine focuses on the development of the different stages of life in relation to health and its care; it is based as a discipline on changes in behavior and lifestyle that can improve health, as well as prevent other illnesses while reducing their symptoms, behavioral changes have also been shown to help people feel better physically and emotionally, leading to a better quality of life and increased self-care skills (Reynoso and Seligson, 2005; as cited Bravo, 2014).

The beliefs that are generated in chronic diseases confront an emotional impact due to the link with the catastrophic thoughts that are presented in the development of the disease; for this reason, we have worked with the cognitive representations of the diseases where authors such as Prochaska et al. (1987) mention emotional reactions attributed to symptoms in their self-regulation model, while Levanthal et al. (1992) emphasize how coping with the disease influences and in 1996 Petrie et al. emphasize self-care behaviors (Bravo, 2014).

As mentioned by Epel et al. (2000), cited in Moscoso (2010), stress generates behavioral responses according to the context of the person; modifying the lifestyle and, in turn, the adaptation and coping that the person goes through in a CNCD, presenting increasing stress generates chronicity related to emotional distress in which maladaptive behaviors that affect physical, emotional and cognitive health become visible, deteriorating, even more, the quality of life of the person.

### ***Third generation therapies applied to ncads***

Third-generation therapies emerged in the 1990s and are currently used to treat patients related to stress, anxiety, and depression, focusing on the perception of experience and awareness of the context in people with chronic diseases (Pérez, 2006; cited in Sánchez & Moreno, 2017).

In relation to Arnau & Pinazo (2015), in Western psychology, cognitive-behavioral therapies have been transcending and making room for third-generation therapies, relating not only to removing the symptoms of the subject but to giving a different vision to the experience by making conscious the sensations, cognitions, emotions, and behavior; they focus on the context and the psychological aspects, leaving the fight against the symptoms and accepting the experience.

The third generation of therapies, known as contextual therapies, mainly seeks that the patient can differentiate himself from his private events that seem unpleasant, finding acceptance in them without being carried away by strategies that seek his total control, this through the execution of a series of behaviors that direct him towards what is most significant in his life, as mentioned by García & Tamayo (2018).

Badenes & Ausín (2021) mention that various interventions have been generated to reduce the symptoms caused by some chronic diseases such as pain, stress, anxiety, and depression and therefore improve quality of life; Among the interventions developed and researched are the Mindfulness-based Stress Reduction Program (MBSR), Mindfulness-based Cognitive therapy, dialectical behavior therapy, and acceptance and commitment therapies.

### ***Mindfulness applied to chronic diseases.***

As Barceló et al. (2018) refer, Jon Kabat-Zinn was the one who used mindfulness meditation for stress reduction, describing it as full attention in the present moment without generating judgments, being a technique used from radical and contextual behaviorism with the objective of living the experience and accepting it, in such a way that learning of the skills that are acquired and obtaining effectiveness in quality of life is generated; At the end of the 1970s, research-based on Mindfulness (Mindfulness-Based Intervention, MBI) originated in a group treatment to help patients with diseases and chronic pain to reduce stress with a stress reduction program in Mindfulness (Mindfulness-Based Stress Reduction, MBSR), years later in the course of the '90s, new interventions were carried out such as Mindfulness-Based Cognitive Therapy

(MBCT) used to prevent relapses in depression and anxiety (Grossman et al., 2004, as cited in Barcelo et al. 2018). One of the definitions of mindfulness proposed by Kabat Zinn (1990, 2003, cited in Arnau & Pinazo 2015) refers to the awareness of paying attention to the experience that is presented at the moment, without generating judgments or evaluations and without reacting to them, directing attention only to what is living, reflecting attitudes of compassion with beginner minds before both pleasant and unpleasant events, directed to full attention in strategies such as mindfulness. Compassion and mindfulness stem from Buddhist philosophy. Referring to Tenzin Gyatzo (2010), the word compassion is the translation of the Sanskrit *haruná* or *karuna* and the Tibetan *snymg-rje*, which means "desire to alleviate the suffering of others and the action that is put into practice to achieve it." Bornemann and Singer (2013, cited in Sánchez & Moreno, 2017) mention compassion as an ability to stabilize the mind through meditative practices.

According to Sánchez & Moreno (2017), efficacy has been demonstrated in mindfulness treatment programs using compassion on the quality of life in people with chronic diseases. For Riveros, Castro & Lara (2009, cited in Sánchez & Moreno 2017), quality of life is directed at a subjective evaluation of what causes the loss of health and the patient's perception of the doctor and adherence to treatment.

Mindfulness interventions refer to effectiveness in two models used for emotional regulation and stress reduction; the first of them refers to Mindfulness-based stress reduction (MBSR) and the second to Mindfulness-based cognitive therapy (MBCT), both of which are maintained in the practical exercise (Moscoso, 2018).

The most used interventions to reduce stress used in people with NCDs are MBSR, which is developed in 8 sessions, two hours each, whose objective is psychoeducation on stress, the practice of meditation that leads to acceptance and full experience of bodily sensations, breathing and identification of intrusive thoughts.

According to Corral (2017), when manifesting the experience in the application of mindfulness can reduce stress and anxiety because the person is guided to focus on the present moment, identifying each of their physical, emotional, and cognitive sensations. Entailing one of the principles of mindfulness, "beginner's mind" without judging the experience, just accepting it.

Recent studies have shown effectiveness in Stress Reduction Programs with mindfulness interventions related to patients with NCDs to reduce symptoms (De Vibe et al., 2015, Goyal et al., 2014, Hervás et al., 2016, cited in Bernal et al., 2020).

As Carmody (2009, cited in Bernal et al., 2020) mentions, they aim to teach people to become aware of their immediate behaviors in relation to the unpleasant effects they present that cause discomfort from the experience of their thoughts, and emotions and behaviors.

Mindfulness-based interventions (MBI) are generated through meditation, focusing on full attention, using the senses in the present moment without generating judgments (Vallejo, 2006; as cited in Bedoya, 2019), said intervention has the objective of training the person with some NCD in developing and maintaining skills related to the present moment, making each part of their body awareness, identifying the sensations, emotions, and thoughts in the different situations of their life.

According to Bedoya (2019), the development of mindfulness skills will provide coping strategies such as the acceptance of unpleasant automatic thoughts and emotional and stress regulation; to guide the assimilation, acceptance of reality, and increased well-being.

In a review carried out by Sánchez & Castro (2016), they found that the Bishop group, made up of eleven experts, elaborated an operative definition of mindfulness, defining it as a process to increase insight into the mind and the generation of a perspective of decentralization of thoughts and feelings so that they can be experienced in terms of their subjectivity and transitory nature.

Table 1.

*Mindfulness app interventions*

Model of the BISHOP group	Kabat-Zinnt & Davidson mind-body interactions	Siegel
Self-regulation of attention: focusing the experience at the right moment when it occurs, allowing an approach to the mental events in the present moment.	Non-judgment: the objective is that the practitioner develops the role of observer, contemplating the experiences that arise in the mind in an impartial way, without judging, trying not to value the internal or external stimuli that could be present in the development of this present event.	Curiosity
Particular orientation: attitude of curiosity, openness and acceptance.	Beginner's mind: in this attitude, the person tends to free himself from all previous knowledge, of any learning or acquired expectation, generating a state of openness towards reality as if it were the	Opening

first time he had met it.

Patience:	Acceptance
understanding that all things happen at a certain time, without having to speed up the process.	
Acceptance: implies feeling in a receptive and open way, letting thoughts flow without imposing our ideas of how to view or value that experience.	Love
Acceptance in this context does not imply the development of a passive attitude.	

Note: Representation of the approach to interventions in Mindfulness from the Model of the BISHOP group, Kabat-Zinn & Richard and Siegel (performed by Ordaz, 2021).

There is empirical evidence regarding the application of mindfulness as an intervention that reestablishes emotional balance and generates a decrease in avoidant coping. The efficacy obtained in the fields of psychology and medicine such as the reduction of stress and anxiety, the treatment of depression and fibromyalgia, (Sánchez & Castro, 2016). It is extremely important to continue delving into mindfulness-based interventions for certain chronic diseases such as diabetes and to design a program that demonstrates the efficacy and impact on the patient's quality of life (González et al., 2019). Among the techniques practiced in the intervention of mindfulness are conscious breathing, body observation exercises, yoga exercises, eating paying attention, meditations, attention to the senses before the integration of the stimuli present, including pain, active listening and attention to the cognitive elements; All these practices are guided by attitudes of the beginner's mind, patience, non-judgment, trust, non-force, yielding and acceptance (Amaya, 2015). According to Rozo (2019), models such as mindfulness have proven to be effective in the treatment of diseases and illnesses, concluding in various studies that the mindfulness-based cognitive therapy model usually reflects better results than the ACT model, mainly in the approach to the stress that patients usually manifest when they are on dialysis.

#### **Acceptance and commitment therapy (ACT) applied to chronic diseases**

Acceptance and commitment therapy is a psychotherapeutic model proposed by Hayes et al. (2001), which addresses a behavioral, cognitive and emotional guide that guides the

person to their personal values, that is, what is most significant and relevant in their life, and not so much the total absence of unpleasant experiences that commonly they are classified as negative (pain, anger, anxiety, sadness, etc.) as mentioned by Páez et al (2005). That is why ACT focuses on opening up sufficient cognitive flexibility under a series of stages which the person goes through in order to achieve a greater balance in his life based on the approach of his values and his behaviors that allow achieving the objectives. themselves (Tafur, 2019).

As a result of the implementation of different psychotherapeutic models with a contextual approach, ACT has proven to be one of the most useful models for the treatment of multiple psychological conditions, such as GAD, depressive disorders, including medical conditions such as diabetes, cancer, hypertension, among others. others (Lopez, 2019). Among the premises of this model, ACT intends to work on the behavioral pattern known as experiential avoidance, which, Pérez & Uribe (2016) state that this avoidance arises from the refusal to experience certain unpleasant events, mainly those private events such as feelings, thoughts or emotions. with the purpose of achieving cognitive flexibility towards experience and actions directed to values, which has been evaluated from a series of factors such as cognitive fusion, decentralization, committed action and acceptance of pain (Scott et al. al, 2016; cited by Lami et al, 2020).

The approach of the ACT contextual psychotherapeutic model can be directed from any of its phases, that is, in reality this model is not unidirectional, but rather its dynamics is determined from the need or requirement of the clinical case. For example, a values orientation can help a person accept certain private events that seem unpleasant, such as physical or emotional pain. Likewise, this acceptance allows to get more in touch with thoughts and emotions instead of devising multiple strategies to maintain control of them, opening up a greater psychological flexibility that invites to live experiences previously repressed or invalidated by the subject (Hayes et al ., cited in Páez et al, 2005). It is for this reason that one of the main approaches of the ACT model emphasizes focusing attention on values that, in turn, will guide actions that are valuable for the purpose of greater tolerance to pain, both physical and psychological, compared to of another type of intervention or psychotherapeutic treatment that is more common, but not functional; such as the TCC model (López, 2019).

Following this same theoretical line, Muñoz (2015) mentions that the model of acceptance and commitment therapy offers a set of strategies immersed in stages that aim to achieve psychological flexibility in a person, so that said flexibility allows the human being to accept certain unpleasant private events instead of general strategies for their absolute control. In addition to this, this therapy focuses on the acceptance of pain, rather than its direct intervention through behavior modification that guides you towards what is most significant in your life. Multiple studies have focused their attention on intervening in

patients suffering from chronic pain or some type of chronic degenerative disease through the development of cognitive flexibility, despite the pain they may be witnessing at a sensory level. That is, that the person can let in sensations, emotions, aversive thoughts without fusing with it. The ACT model usually has improvements not only in achieving psychological flexibility in the patient, but also in reducing symptoms of depression, stress and anxiety that the same symptoms of cancer cause in the patient, increasing expectations and quality of life (Muñoz, 2015).

Another concept that ACT provides, and that is also crucial to psychoeducate patients, is the term "healthy normality", which García et al (2019) refer to a constant in avoiding physical and psychological discomfort at all costs, opting for direct life exclusively to an absolutist satisfaction of needs. As it is known, in reality different types of events are experienced, some will be more pleasant than others, but without a doubt, it will be lived under this rubric of living at least once in life an event that triggers unpleasant private experiences, as well as You will live at least one experience that triggers pleasant private events. The objective of ACT is to make the patient realize that living under the concept of healthy normality increases life expectancies in a more idealized way than in a realistic way, being disturbed by aversive events that are out of his control, since he has been It has been shown that patients can reduce symptoms such as anxiety, catastrophic thoughts, added to a relevant avoidance pattern, accepting reality as it is, as well as their physical and emotional discomfort, focusing on the most important factors in their lives (Restrepo et al, 2020 ).

Over the years, multiple researchers have tried to discover the greatest possible applicability of this model, encountering multiple clinical cases of approaching this model to chronic degenerative diseases such as cancer, this is because ACT, as Pérez and Uribe (2016) mention focuses on developing cognitive flexibility in the patient so that they can accept these unpleasant private events despite the pain they may cause, as well as the consequences that the cancer diagnosis brings, for example, some disorder of anxiety or depression, through orientation to carry out behaviors that allow him to achieve what is extremely important in his life, accepting reality as it is, concentrating on the here and now.

This approach has had favorable results when implemented in different types of cancer. Various studies have announced that acceptance and direction towards values have been achieved through committed actions despite the unpleasant private events that the patients themselves may face (Pérez & Uribe, 2016).

A study conducted by Fayazbakhsh and Mansouri (2019) states that the effectiveness of the contextual ACT model has achieved greater tolerance for uncertainty and experiential avoidance in a group of patients diagnosed with Type II Diabetes with symptoms of generalized anxiety disorder (GAD) , which, compared to another control group with the same diagnosis, more clearly identifying the efficacy of the acceptance and commitment therapy model.

In the case of cancer patients, the task of the ACT is to reduce this dilemma and choose to accept that there will be unpleasant events on the face or internally, and that the little or no control that it can exert towards it does not mean that there will be no unpleasant events. You can perform valuable actions that guide you to achieve what is most important to you in your life in general. This in order to reduce other symptoms such as depression, anxiety or stress, acquiring greater psychological flexibility, moving it away from experiential avoidance (García et. al., 2019). In other words, ACT is not identified by the techniques it uses on patients, but rather in the process of accompanying the patient so that he can acquire this acceptance and responsibility towards his private events and values, which functions as entities of interconnection whose purpose is human growth and the development of psychological flexibility (Torres, 2020).

Multiple plans and interventions have been used for the treatment of oncological diseases, such as breast, ovarian, colorectal cancer and other cancer variables in advanced stages, for example stress reduction based on mindfulness, which is designed to improve the ability of adaptation of anxiety derived from a chronic illness, as cited in Luchini (2018), as well as in reducing the denial of the diagnosis of said illness, which can bring symptoms of post-traumatic stress, physical pain or emotional disorders as mentioned Bellido (2019), without neglecting the strong need to eliminate unpleasant private experiences such as anxiety, guilt and anger (Garrido, 2020).

For its part, the acceptance and commitment therapy proposed by Hayes et al (2001) guides the patient to accept their health, focusing on carrying out actions that guide them towards their personal values. Behavioral activation, as cited in Luchini (2018), usually complements the previous two, because its main objective is to treat certain emotional problems through pleasurable behaviors for the patient. In addition to the above, this objective also focuses on the body image that patients with breast cancer usually conflict with, mainly in the interaction with their relatives, achieving this necessary search for present-oriented psychological flexibility and developing favorable expectations towards their future. (Ariza et al, 2019).

That is why some research has shown that behavioral activation, together with ACT, tend to be more effective if they are implemented under a group therapy modality, which helps reduce the emotional distress caused by the same chronic disease, adding a stronger adherence to both pharmacological and psychological treatment (Luchini, 2018).

In the investigations proposed by Santamaría & Uribe (2017) that indicate a lack of evidence on the efficacy of ACT in HIV+ patients. These researchers have analyzed a set of variables that could help confirm the effectiveness of said model. Some methodological factors that they propose are a considerable reduction of the sample in a population, a study design and two types of group, one experimental and one control; This approached from the methodological perspective. In a characterological way of the same sample, some functional

variables could be the stage of HIV/AIDS in which the patients are, sexual orientation, time of treatment, among others. Finally, analyze the little or a lot of research on the HIV+ population with adherence to some treatment of this type of psychotherapeutic models (Santamaría & Uribe, 2017).

In various investigations, such as that of Ferrer (2014), multiple treatment plans for eating disorders have been found, from a healthy diet to a behavioral intervention plan for it. However, the needs of the population have suggested a psychotherapeutic invention for treatment adherence in patients with eating disorders. Contextual therapies such as acceptance and commitment therapy, along with mindfulness-based therapy, have ceased to be effective in this type of disorder, since, in both, their objective is not to completely eliminate feelings of discomfort or unpleasantness. by certain private events, but rather to achieve cognitive flexibility through the acceptance of said events and the execution of actions that guide towards the most important values in the life of the person.

What has led this study has been to emphasize the intimate relationship between a decrease in inflexibility and experiential avoidance with the reduction of control strategies in eating habits. In other words, a patient with an eating disorder can develop the habit of sticking to a diet, the habit of exercising constantly if their experiential avoidance and psychological inflexibility are diminished or absent (Ferrer, 2014).

On the other hand, Cazorla (2016) has focused on confirming the efficacy of ACT as a treatment for chronic pain, where he emphasizes the main objective of the model, which is to ensure that the patient can accept pain, both physical and psychological, as a medical condition that you cannot control, implying to eliminate any type of strategy or attempt to completely dispel it or reduce it at all. Since the goal of ACT is to create greater psychological openness, it is crucial to teach patients to release control strategies and inflexibility derived from a set of experiential avoidances and redirect attention towards the acceptance of private events, such as emotions, sensations and thoughts. that are unpleasant for the person, as well as attending to those elements called values, which is everything of vital importance and meaning for the person so that they execute actions that achieve said values, as clarified by Cinalli (2020), who addresses the importance of working on certain thoughts in older adults such as "I don't want to think about how bad I feel", "I can't keep feeling this pain", "I have to stop being sad" "until I get better I can't do anything".

Bravo (2017), has dedicated himself to studying the efficacy in the treatment of cardiovascular diseases such as hypertension through ACT together with mindfulness therapy. This study has made it clear that the ACT model has provided support focused on the regulation of certain mechanisms that are quite influential in the patient's illness, such as experiential avoidance, the reduction of the self-concept in an inflexible way, a better clarification of the values of patient's life, as well as the reorganization of plans and actions that promote these values. As announced in the ACT by Hayes et al (2001), the

main objective is to create a sense of acceptance and commitment in the patient to adhere to the established treatment, which is the case of following a diet, exercising periodically, as well as such as continuing to carry out actions that allow you to direct your life towards your values, despite the unpleasant private events that you need to face, where relaxation exercises can promote better coping.

Multiple branches of psychotherapy have been registered that have contributed to the treatment of cancer, from "Counselling", together with positive psychology that have managed to reduce hopeless expectations, increasing feelings of joy, tranquility, as well as an increase in interest in daily activities (Cerdán, 2017). However, the implementation of "third generation" psychotherapeutic models, such as ACT (Hayes et al, 2001), mindfulness and behavioral activation referred to by Luchini (2018) have managed to take these favorable results, beyond what other methods could achieve. branches. For example, using mindfulness-based techniques, there was a significant reduction in anxiety symptoms; trait-state, as well as the decrease in depressive symptoms reaching practically absent levels, as well as a greater acceptance towards chemotherapy treatments, reducing symptoms of depression and anxiety, as well as an improvement in the patient's quality of life, where these results lasted in the long term (Cerdán, 2017). Even compared to results derived from the CBT intervention, patients' levels of psychological flexibility were reduced, causing declines in physical fitness (Aguirre et al, 2017).

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One of the main strategies to carry out these objectives is the use of metaphors and analogies, which allow the patient to realize the control strategies that he exercises, as well as to develop his psychological flexibility (Kindful, 2017). Likewise, ACT implements what is known as hexaflex, which is a hexagon-shaped scheme that details the relevant factors that the

patient avoids, persists, or simply has trouble recognizing so that they can be worked on in therapy and gradually develop cognitive flexibility, reducing inflexibility and experiential avoidance (Cazorla, 2016).

However, in acceptance and commitment therapy interventions, it is more useful in a group setting compared to the mindfulness model, because they tend to feel more identified when meeting people with similar problems and private experiences, achieving an identification of them in a different way. faster and more accurate way (Molano, 2020).

Acceptance and commitment therapy has focused its attention on developing cognitive flexibility in patients so that they can acquire multiple tools that allow them to direct their behavior towards the most significant values in their lives, accepting their context as they live it. , despite the private events that seem unpleasant, fostering in him a sense of resilience. Although it has been shown that third-generation therapies have managed more favorable results, it should be noted that the combination of these models with specific techniques such as cognitive restructuring by the CBT model helps the patient to analyze those events in greater detail. private, acquiring a better adaptation to the disease, and commitment to clarify their values and guide them through meaningful actions for their lives (Rincón, 2020).

## DISCUSSION

It is of the utmost importance to follow a line on the interventions that can be generated in people with one or multiple chronic degenerative diseases, from the appearance of them as well as their evolution, from the contextual approach we can find interventions based on Mindfulness for the reduction of stress and Acceptance and Commitment Therapy (ACT) which have been advancing on the premise of not disappearing pain or avoiding it, but accepting it and generating coping strategies.

The person who triggers a NCD may present changes in various factors of his life such as commitment to adherence to treatment, changes in his quality of life and those around him, developing an increase in stress, anxiety or depression.

Various investigations have been carried out on the efficacy of third-generation interventions and those that have been found to be most effective when applied to NCDs have been mindfulness stress reduction programs (Mindfulness-Based Stress Reduction, MBSR) since they are aimed at achieve cognitive flexibility through the acceptance of these events and the execution of actions that guide towards the most important values in the life of the person.

Some of the limitations in the search for the theoretical review is that they do not contemplate the prevention of relapses, being a fundamental element for long-term maintenance in cognitive-behavioral therapy, the treatments do not take into account the results in patients with advanced age for their cognitive functions, focusing more on early ages.

The interventions of the programs already developed in mindfulness have shown better results for reducing stress, while ACT is usually more effective in group intervention for people with one or more NCDs. There is research on the efficacy of contextual therapies applied to chronic non-communicable diseases such as diabetes, cancer, hypertension, obesity, asthma, kidney failure, however it would be important to continue researching other chronic diseases that are very important such as HIV, differentiating in which the latter is transmissible.

Cognitive-behavioral therapies try to see an absolute reality leaving aside the context, while contextual therapies focus on the context, on the functionality or dysfunctionality of behaviors within it.

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