

Emotional Regulation as a Predictor of Psychological Adjustment in Chronic Illness: A Narrative Review

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ABSTRACT

Chronic illnesses impose substantial psychological and physical burdens, with emotional dysregulation contributing to poorer psychological adjustment, reduced treatment adherence, and adverse health outcomes. This structured narrative review examined emotion regulation (ER) as a transdiagnostic predictor of psychological adjustment among individuals living with chronic illnesses.

A structured literature search was conducted using PubMed, Scopus, PsycINFO, Web of Science, and Google Scholar to identify peer-reviewed studies published between 2008 and 2026. Evidence from longitudinal, cross-sectional, observational, randomized controlled, and systematic review studies was synthesized narratively across major chronic illness populations, including cancer, diabetes, cardiovascular disease, chronic pain, and autoimmune disorders.

Findings consistently demonstrated that adaptive ER strategies, particularly cognitive reappraisal, acceptance, mindfulness, and problem-focused coping, were associated with lower anxiety and depression, greater resilience, improved treatment adherence, and enhanced health-related quality of life. In contrast, maladaptive strategies, including expressive suppression, rumination, catastrophizing, and experiential avoidance, were associated with greater psychological distress, poorer self-management, increased inflammatory activity, elevated glycosylated hemoglobin (HbA1c), and adverse cardiovascular outcomes. Emerging evidence also indicates that fluctuations in physical symptoms may temporarily impair emotion regulation, highlighting a reciprocal relationship between emotional and physical functioning.

Clinical evidence supports integrating evidence-based psychological interventions, including Acceptance and Commitment Therapy (ACT), Mindfulness-Based Stress Reduction (MBSR), Cognitive Behavioural Therapy (CBT), and Dialectical Behaviour Therapy (DBT), into chronic illness care. Overall, emotion regulation represents a modifiable mechanism that can enhance psychological well-being, treatment adherence, and overall quality of life, supporting its routine assessment and integration into multidisciplinary healthcare.

Keywords: Emotional Regulation, Chronic Illness, Psychological Adjustment, Coping, Mental Health, Quality of Life

INTRODUCTION

Background

The global burden of chronic somatic illness represents one of the most complex challenges facing contemporary public health systems. Non-communicable, chronic conditions including cancer, type 1 and type 2 diabetes mellitus, cardiovascular disease, chronic pain syndromes, and autoimmune or neurological disorders are characterized by their long duration, slow progression, and the necessity for permanent, complex self-management regimens (Coccaro, E. F et al., 2022). As diagnostic capabilities and biomedical treatments advance, millions of individuals live for decades with these conditions.

However, physical longevity does not guarantee psychological well-being. Living with a chronic somatic

diagnosis is inherently distressing, exposing individuals to repeated medical treatments, prolonged hospitalizations, and uncertainty. Consequently, chronic diseases impose severe psychological and emotional burdens, frequently leading to clinical levels of anxiety, depression, loss of identity, and pervasive social isolation. The rising prevalence of these conditions necessitates a deeper understanding of the psychological mechanisms that facilitate or hinder adaptation.

Psychological Adjustment in Chronic Illness

Psychological adjustment to chronic illness is conceptualized as a dynamic, continuous process through which an individual attempts to return to a state of emotional equilibrium or psychological homeostasis that was disrupted by the onset and progression of the disease (Stoner, C. R et al., 2025). This adjustment is not merely the absence of psychopathology; it represents a multidimensional construct encompassing emotional stability, cognitive acceptance of physical limitations, the maintenance of positive self-esteem, functional interpersonal relationships, and active engagement in health-promoting behaviors (Conduah, A. K et al., 2025).

Successful psychological adjustment is a critical determinant of clinical prognosis. Patients who achieve healthy adjustment demonstrate superior adherence to demanding medical regimens, show lower rates of clinical readmission, and report a significantly higher health-related quality of life (De Ridder, D et al., 2008). Conversely, maladjustment and the resultant psychological distress are associated with accelerated disease progression, higher healthcare utilization costs, and elevated mortality rates. Stanton, Bouchard, and Longman have demonstrated that a failure to psychologically adjust is robustly associated with reduced health-related quality of life, greater outpatient care use, and more frequent hospitalizations, adding immense economic and functional strain to healthcare systems ((Norman-Nott, N et al., 2024).

Emotional Regulation as a Key Psychological Process

Historically, clinical research focused primarily on identifying the specific stressors or disease characteristics that predicted maladjustment. However, contemporary health psychology has shifted toward exploring the internal, modifiable cognitive-affective processes that explain why some individuals adapt resiliently to severe physical health challenges while others experience profound psychological distress. Within this paradigm, emotional regulation (ER) has emerged as a central construct (Gross, J. J. 2015).

ER refers to the experiencing, processing, and modulating of emotional responses. It represents a necessary mechanism to manage the emotional stressors common in patients with chronic illness, with optimal regulation promoting adaptation in the presence of aversive stressors. The growing interest in ER reflects its potential to influence health-promoting behaviors, including diet, exercise, and treatment compliance. Understanding individual differences in how emotions are regulated can help explain variations in self-management abilities and psychological adaptation to chronic disease (Lewczuk, K et al., 2010).

Aim of the Review

This review examines the role of emotional regulation in predicting psychological adjustment among individuals living with chronic illness and explores its implications for clinical practice and future research. By synthesizing existing literature across diverse disease populations, this narrative review aims to clarify how specific adaptive and maladaptive ER strategies influence emotional, cognitive, behavioral, and social domains of adjustment. Ultimately, this review highlights the clinical utility of targeting ER in psychological interventions to enhance overall quality of life and somatic health outcomes in patients with chronic conditions.

METHODOLOGY

This study employed a **narrative review** methodology to synthesize contemporary evidence on the role of emotional regulation in predicting psychological adjustment among individuals living with chronic illnesses. A narrative review was considered appropriate because it allows the integration of theoretical perspectives and empirical findings across diverse chronic disease populations while providing a broad conceptual understanding of the topic.

A structured literature search was undertaken using major electronic databases, including **PubMed, Scopus, PsycINFO, Web of Science, and Google Scholar**. The search primarily focused on peer-reviewed articles published between **2008 and 2026**, while seminal theoretical publications were included where necessary to provide conceptual foundations.

The search strategy incorporated combinations of keywords such as "**emotion regulation**," "**emotional regulation**," "**psychological adjustment**," "**chronic illness**," "**chronic disease**," "**coping**," "**quality of life**," "**cancer**," "**diabetes**," "**cardiovascular disease**," "**chronic pain**," and "**autoimmune disease**." Boolean operators (AND, OR) were used to combine search terms to identify relevant literature.

Studies were included if they:

- investigated emotional regulation in individuals with chronic illnesses;
- examined psychological adjustment or related psychological outcomes (e.g., anxiety, depression, resilience, quality of life, or treatment adherence);
- were published in peer-reviewed journals;
- were available in English.

Studies were excluded if they:

- focused exclusively on acute illnesses;
- consisted of editorials, conference abstracts, dissertations, or unpublished reports;
- did not address emotional regulation or psychological adjustment as a primary focus.

Due to the conceptual scope of this review and the heterogeneity of study designs, populations, and outcome measures, findings were synthesized narratively rather than quantitatively. The reviewed literature was organized into thematic domains, including theoretical foundations of emotional regulation, psychological adjustment outcomes, evidence across major chronic illness populations, and clinical implications.

Study Selection and Quality Considerations

The literature identified through the database search was screened based on relevance to the objectives of the review. Priority was given to studies that directly examined the relationship between emotional regulation and psychological adjustment among individuals living with chronic illnesses. Additional emphasis was placed on high-quality empirical evidence, including systematic reviews, meta-analyses, randomized controlled trials, longitudinal cohort studies, and well-designed observational studies. Seminal theoretical publications were also included where necessary to provide conceptual foundations for emotional regulation.

Although a formal risk-of-bias assessment was not undertaken because of the narrative nature of the review, the credibility of the evidence was considered during the synthesis. Preference was given to peer-reviewed publications with robust study designs, adequate sample sizes, validated psychological measures, and findings that were consistently replicated across different chronic illness populations. This approach aimed to ensure that the conclusions presented were supported by the strongest available evidence while maintaining the broad integrative purpose of a narrative review.

Understanding Chronic Illness and Psychological Adjustment

Defining Chronic Illness

From the perspective of the World Health Organization (WHO), chronic illnesses are characterized by their long duration, slow physiological progression, and non-communicable nature. These conditions are rarely resolved

spontaneously and are seldom cured completely, establishing a permanent physiological reality for the affected individual. Unlike acute health events, chronic illnesses require ongoing, active daily management over years or decades. This requirement shifts the primary responsibility of care from clinical professionals to the patients themselves, demanding permanent alterations in lifestyle, routine health monitoring, and compliance with complex, long-term pharmacological regimens.

Psychological Challenges Associated with Chronic Illness

The onset and progression of chronic illness expose individuals to a cascade of psychological challenges that threaten their global sense of well-being. Clinical levels of anxiety and depression are highly prevalent in these populations, driven by the persistent threat of physical deterioration, pain, and unpredictable symptom fluctuations. General psychological distress is compounded by the fear of disease progression or recurrence, which frequently manifests as intrusive thoughts and administrative hypervigilance.

Furthermore, patients must cope with the loss of identity, as physical and cognitive limitations restrict their ability to perform valued occupational, familial, and social roles. This identity disruption is often accompanied by profound social isolation. This isolation is exacerbated by physical barriers, the subjective shame of bodily changes, and a perceived lack of understanding from social networks, which further reinforces feelings of loneliness and helplessness.

Longitudinal tracking of these psychological challenges reveals that patients who demonstrate fluctuating or persistently abnormal trajectories of anxiety and depression during the first year of diagnosis are at a significantly higher risk for long-term psychopathology. Additionally, psychological difficulties such as alexithymia the inability to identify and describe emotions exacerbate somatic symptoms by impairing stress management, distorting illness perceptions, and increasing the overall psychological burden of the disease.

Concept of Psychological Adjustment

Psychological adjustment to chronic illness is a multidimensional, dynamic construct that involves several interrelated domains of functioning:

- **Emotional Adjustment:** Achieving emotional stability and reducing subjective distress (depression, anxiety, and general stress). It involves processing difficult emotions related to the diagnosis and returning to a state of emotional equilibrium.
- **Cognitive Adjustment:** Reconstructing illness cognitions to foster acceptance, cognitive coherence, and positive appraisal. Rather than adopting a helpless orientation, adjusted patients reframe their illness, find meaning in adversity, and focus on potential positive outcomes.
- **Behavioral Adjustment:** Successfully engaging in health-promoting behaviors, daily self-care tasks, and strict adherence to complex medical and lifestyle regimens. It reflects the patient's self-efficacy in managing their health despite physical limitations.
- **Social Adjustment:** Maintaining supportive relationships, adapting to changes in social roles, and preserving functional social interactions. It involves avoiding the pitfalls of social withdrawal and managing interpersonal stressors.

A robust model of psychological adjustment highlights that the strongest pathways linking a patient's health perception to health behavior involve a sequential mediation process. Specifically, health perception influences behavioral adjustment through the sequential mediation of acceptance, experienced health, and projected health, with a sense of personal control potentially preceding or replacing acceptance. This sequential model explains between 39.2% and 50.9% of the variance in patient health behaviors, demonstrating that cognitive acceptance and perceived control are foundational to behavioral adjustment and long-term self-care.

Theoretical Foundations of Emotional Regulation

Definition of Emotional Regulation

According to Gross, emotional regulation refers to the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions. This framework posits that emotions are flexible response tendencies that unfold over time, rather than fixed, automatic reactions to environmental stimuli.

It is theoretically essential to distinguish emotional regulation from related constructs such as coping, mood regulation, and ego defense. Coping focuses primarily on decreasing negative emotional experiences arising from protracted, stressful situations. Mood regulation is largely concerned with altering subjective emotional experiences rather than outward emotional behaviors. Ego defenses are typically conceptualized as unconscious, stable individual differences.

In contrast, emotional regulation represents a broader, transdiagnostic construct that encompasses both conscious and implicit, automatic and effortful, and down-regulation and up-regulation of both positive and negative emotions across diverse contexts. Thus, affect regulation serves as the superordinate construct, with emotional regulation, coping, mood regulation, and ego defense processes occupying permeable, related sub-domains.

Gross's Process Model of Emotion Regulation

Gross's Process Model of Emotion Regulation organizes regulatory strategies based on the chronological point at which they intervene in the emotion-generative process. This model distinguishes between antecedent-focused strategies, which are deployed before emotional response tendencies are fully activated, and response-focused strategies, which are deployed after the emotional response has occurred. The model delineates five distinct regulatory families:

1. **Situation Selection:** Choosing to enter or avoid specific situations, people, or places to shape subsequent emotional experiences (e.g., a patient avoiding stressful family gatherings to preserve limited physical and emotional energy).
2. **Situation Modification:** Actively altering the external environment to tailor its emotional impact (e.g., installing physical aids in the home to reduce frustration and preserve a sense of self-efficacy).
3. **Attentional Deployment:** Directing attentional focus within a given situation to influence emotional states. This includes distraction (shifting attention away from a somatic stressor, such as pain) or concentration (focusing intently on therapeutic tasks).
4. **Cognitive Change (Reappraisal):** Reinterpreting the meaning of a situation to alter its emotional impact. Cognitive reappraisal is a highly adaptive, antecedent-focused strategy where a patient reframes a health stressor (e.g., viewing a physical limitation not as a personal failure, but as an opportunity to master new, adaptive skills).
5. **Response Modulation (Suppression):** Attempting to directly influence physiological, experiential, or behavioral response tendencies once the emotion is fully generated. Expressive suppression is a response-focused strategy in which an individual inhibits the outward behavioral expression of inner feelings (e.g., hiding fear, sadness, or physical pain from loved ones).

The enactment of these strategies is a cyclical process. According to the extended process model, the emotional regulation cycle begins when a discrepancy is identified between an individual's desired emotional state and their actual or projected state. This discrepancy triggers a sequence of strategy selection, implementation, and ongoing monitoring to track regulatory success.

Trait emotional regulation represents an individual's typical or average pattern of managing emotions over time.

In contrast, state emotional regulation captures fluctuating, momentary difficulties or successes in response to specific triggers. This regulatory capacity is shaped by lived experiences and biological factors.

Furthermore, reverse causal pathways exist: physical and mental exhaustion carries over to subsequent days, driving affective lability, and response-focused strategies like surface acting (simulating positive emotions while suppressing negative ones) predict increased exhaustion two days later, illustrating the cognitive and physiological costs of poor regulation.

Adaptive Emotional Regulation Strategies

Adaptive emotional regulation strategies are characterized by their cognitive flexibility, context sensitivity, and long-term utility in promoting psychological and physical health.

- **Cognitive Reappraisal:** Reappraisal allows individuals to modify their emotional response early in the generative process, reducing both subjective negative affect and physiological reactivity without requiring ongoing, depleting cognitive effort.
- **Acceptance:** Non-judgmentally acknowledging and experiencing emotions and bodily sensations is a core component of psychological flexibility. It helps patients process difficult emotions without succumbing to secondary distress or emotional avoidance.
- **Problem-Focused Coping:** Directing cognitive efforts toward managing illness demands through self-care and structured planning reduces the impact of somatic stressors.
- **Mindfulness:** Present-moment awareness of thoughts, feelings, and physical sensations without judgment reduces automatic cognitive reactivity.

These adaptive strategies are associated with lower emotional distress and enhanced psychological well-being. Neuroimaging studies show that a brief mindfulness exercise can significantly reduce activity in brain regions responsible for processing negative emotions, such as the amygdala and parahippocampal gyrus.

Maladaptive Emotional Regulation Strategies

Maladaptive emotional regulation strategies are rigid, automated, and associated with long-term psychological distress, somatic dysfunction, and social friction.

- **Expressive Suppression:** Inhibiting outward emotional displays does not reduce the internal subjective experience of negative emotions. Instead, suppression is highly cognitively demanding, impairs memory, and increases physiological and autonomic arousal in both the individual and their social partners.
- **Rumination:** Repetitively focusing on negative emotional states and physical symptoms maintains negative affect and is a key driver of clinical depression.
- **Avoidance (Experiential Avoidance):** Attempting to escape or bypass negative thoughts and feelings prevents the development of adaptive coping and leads to behavioral disengagement.
- **Catastrophizing:** Magnifying the threat value of physical symptoms and adopting a helpless orientation increases distress and exacerbates somatic symptoms.

Relying on maladaptive strategies is associated with higher psychological distress and worse physical health. The development of these strategies is linked to early attachment representations. Insecure attachment styles (anxious and avoidant) often result from difficulties in regulating distress with primary caregivers, leading to poor emotion regulation and higher psychopathology in adulthood.

Emotional Regulation and Psychological Adjustment in Chronic Illness

Emotional Regulation and Anxiety

In the context of chronic illness, anxiety is frequently driven by health-related uncertainty, somatic symptoms, and fear of progression. Adapting to this uncertainty requires flexible emotional regulation.

When individuals experience difficulties in emotional clarity such as an inability to identify and understand their emotions or have limited access to effective regulation strategies, they are more vulnerable to health anxiety and general distress. For example, patients who struggle to identify their internal emotional states often interpret normal physical sensations as signs of immediate medical danger, triggering panic and avoidant coping.

This relationship is also influenced by attachment styles. Secure attachment styles are associated with effective emotion regulation and lower psychological distress. Conversely, anxious and avoidant attachment styles are positively correlated with psychological disorders in chronically ill patients.

Anxious and avoidant attachment styles reflect insecure internal working models that impair emotional modulation and clarity, leading to elevated health anxiety and lower distress tolerance. This illustrates how relational and regulatory processes interact to shape anxiety trajectories in somatic populations.

Emotional Regulation and Depression

The development of depression in chronic illness is mediated by specific cognitive-behavioral mechanisms linked to emotional dysregulation. When faced with chronic physical stressors, individuals who rely heavily on maladaptive strategies, such as expressive suppression and intrusive rumination, show higher depressive trajectories.

Intrusive rumination involves repetitively focusing on the causes, meanings, and consequences of negative emotions. In patients with cancer or chronic pain, this strategy can maintain negative affect and reduce coping self-efficacy.

Additionally, experiential avoidance the unwillingness to remain in contact with painful thoughts and physical sensations leads to behavioral disengagement and withdrawal. This avoidance prevents patients from processing grief related to physical decline, contributing to helplessness and clinical depression.

Furthermore, poor emotional clarity is linked to depression, as patients who cannot identify their feelings are more likely to adopt passive, helpless coping styles rather than active, goal-directed behaviors.

Emotional Regulation and Quality of Life

Health-related quality of life (HRQoL) is a multidimensional construct encompassing physical, emotional, and social functioning. Emotional regulation acts as a primary predictor of HRQoL in chronic illness by influencing how patients perceive and react to physical symptoms and social limitations.

Adaptive ER strategies, such as cognitive reappraisal and acceptance, allow patients to separate their physical limitations from their global self-worth. This cognitive flexibility helps individuals maintain positive affect, life satisfaction, and goal-directed behavior despite chronic physical limitations (Luan, J., & Leowru, P. 2024).

In contrast, emotional dysregulation such as high emotional lability and limited access to regulation strategies is associated with diminished HRQoL across somatic conditions. For example, expressive suppression and avoidance impair social functioning by creating interpersonal distance and reducing a patient's willingness to seek and accept social support.

Emotional Regulation and Treatment Adherence

Sustained treatment adherence is a demanding behavioral requirement of chronic illness management. Patients

must perform complex, daily self-care tasks (e.g., blood glucose testing, medication adherence, cardiac rehabilitation exercises) that can be tedious, painful, or emotionally draining.

An individual's ability to tolerate and regulate the negative emotions (such as frustration, boredom, and fear) associated with these self-care behaviors determines their adherence. Individuals with strong ER skills are better equipped to maintain goal-directed behavior even when experiencing distress (Grecucci, A et al., 2020).

In contrast, patients with poor ER capacity often show low goal-directed compliance when upset. These individuals are more likely to rely on behavioral avoidance or denial, resulting in missed appointments, medication non-compliance, and poor lifestyle adaptation, which ultimately leads to worse somatic outcomes.

Emotional Regulation and Resilience

Psychological resilience in chronic illness refers to the ability to maintain psychological well-being, adapt to physical challenges, and experience personal growth despite significant adversity. Rather than being a fixed personality trait, resilience is a dynamic process supported by adaptive cognitive and emotional regulation strategies.

Key regulatory pathways to resilience include psychological flexibility and cognitive coherence. Psychological flexibility allows individuals to adjust their emotional regulation strategies to match changing environmental demands, enabling them to balance acceptance of permanent limitations with active problem-solving for manageable challenges.

Furthermore, resilient individuals engage in positive appraisal and meaning-making, reframing their illness as a catalyst for personal growth, closer relationships, or shifted life priorities. This active emotional processing transforms a traumatic physical health event into an opportunity for post-traumatic growth.

Evidence Across Major Chronic Illness Populations

Cancer

In psycho-oncology, emotional distress is a highly prevalent consequence of cancer diagnosis, treatment, and survivorship. A primary psychological challenge across the cancer continuum is the fear of cancer recurrence (FCR), defined as the persistent worry or concern that cancer will return or progress. While low levels of FCR can be a normal emotional response that encourages healthy behaviors, severe or clinical levels of FCR lead to persistent worry, frequent intrusive thoughts, negative coping, and functional impairment (Quan, L et al., 2022).

Recent empirical studies demonstrate that ER capacities predict FCR and subsequent distress. In newly diagnosed lung cancer patients, approximately 70% experience high levels of cancer fear, with 56.4% meeting criteria for depression and 45.3% for anxiety. Depression in this cohort is positively associated with cancer fear ($r = 0.239, p < .01$) and expressive suppression ($r = 0.185, p < .05$), and negatively associated with cognitive reappraisal ($r = -0.323, p < .01$). Anxiety is similarly associated with cancer fear ($r = 0.488$) and lower cognitive reappraisal ($r = -0.214$). Together, cancer fear and cognitive reappraisal explain 25.2% of the variance in anxiety, while cancer fear, expressive suppression, and cognitive reappraisal account for 16.7% of the variance in depression (Su, C et al., 2024).

In breast cancer survivors, structural equation modeling shows that adaptive cognitive emotional regulation strategies predict lower FCR both directly and indirectly through healthier illness perceptions and higher psychological well-being. Conversely, maladaptive strategies (e.g., intrusive rumination) are associated with higher FCR and severe depressive symptoms, suggesting that clinical interventions targeting ER can reduce psychological suffering in oncology populations.

Diabetes

For patients with type 1 and type 2 diabetes mellitus, a major psychological barrier to achieving glycemic control

is diabetes-related distress (DD). DD is defined as the emotional burden, stress, and worry directly associated with the ongoing management, regimen demands, and potential complications of living with diabetes. Emerging evidence suggests that DD is linked to a patient's emotional regulation capacity (Coccaro, E. F et al., 2021).

Research distinguishes between two components of emotion regulation: emotional experience (ER-Exp; the frequency and lability of negative emotionality) and emotional skill (ER-Skill; the capacity to clarify and repair negative affect). ER-Exp is directly related to DD, while ER-Skill is inversely related to DD. Together, these variables show a strong relationship with DD ($\beta = 0.45$) (Vieira, A et al., 2026).

This emotional pathway is linked to glycemic management, as chronic stress and negative emotionality can elevate blood glucose levels through neuroendocrine pathways. Structural equation modeling in type 2 diabetes patients reveals a significant path from emotional dysregulation to elevated glycosylated hemoglobin (HbA1c) levels, mediated by both high diabetes distress and reduced diabetes self-care behaviors (Zanjani, Z et al., 2025).

Furthermore, parent-child ER dynamics play a critical role in pediatric diabetes. Among parents of children with type 1 diabetes, cognitive reappraisal is associated with lower parental diabetes distress, mediated by reduced levels of excessive worry regarding hypoglycemia. Interventions designed to enhance ER skills have been shown to reduce diabetes distress and improve objective HbA1c levels, highlighting the clinical utility of targeting these emotional processes.

Cardiovascular Disease

Cardiovascular disease (CVD) is characterized by a strong link between psychological distress and somatic outcomes, with depression and anxiety representing independent risk factors for CVD onset, cardiac recurrence, and all-cause mortality. Emotion regulation appears to moderate the relationship between stress and cardiovascular risk (Fattahi, A et al., 2025).

In a cohort study of 754 community-dwelling adults, chronic stress interacted with ER capacity (measured by the Difficulties in Emotion Regulation Scale; DERS) to predict a composite cardiovascular risk score. For individuals with poor ER (high DERS scores), chronic stress was significantly associated with elevated CVD risk ($\beta = 0.206, p = .005$). However, for individuals with strong ER (low DERS scores), this association was non-significant ($\beta = 0.048, p = .59$), suggesting that effective ER buffers the physical impact of chronic stress.

This buffer effect operates through biological, behavioral, and psychosocial pathways. Physiologically, maladaptive strategies, such as anger suppression and expressive suppression, are linked to increased physiological strain and cardiovascular risk. Anger suppression has been associated with a 40% to 128% increase in CVD mortality (Roy, B et al., 2018).

In contrast, adaptive strategies like cognitive reappraisal are associated with a 25% lower risk of cardiovascular death. Additionally, cardiac patients with lower resting heart rate variability (HRV) and more severe arterial narrowing rely more heavily on maladaptive ER strategies like rumination, whereas those with higher HRV and milder stenosis use adaptive strategies, pointing to a link between autonomic regulation and emotional processing.

Chronic Pain Conditions

Chronic pain is a complex physical and psychological condition where the sensory experience of pain is closely integrated with affective distress. This relationship is explained by the Dynamic Model of Affect (DMA), which posits that under low-stress conditions, positive and negative emotions function independently. However, under high-stress conditions (such as physical pain and cognitive uncertainty), these affective systems become strongly inversely correlated, narrowing the patient's emotional processing space (Mema, C et al., 2026).

Individuals with chronic pain use various cognitive-affective strategies to manage their condition, with pain catastrophizing and low pain acceptance representing major predictors of high pain interference and severity (Norman-Nott, N et al., 2025). Research shows that general, transdiagnostic emotion regulation capacities

explain significant variance in pain outcomes beyond pain-specific coping strategies. For example, in a prospective study of 1,453 adults with chronic pain, when general difficulties in emotion regulation were entered into a path model, the previously significant association between pain catastrophizing and pain interference became non-significant. Alexithymia emerged as a significant predictor of both pain severity ($\beta = 0.012, p = .032$) and pain interference ($\beta = 0.026, p < .001$) at a three-month follow-up, highlighting the importance of basic emotional awareness in pain adaptation.

Furthermore, ecological momentary assessment (EMA) studies reveal a reciprocal relationship between physical symptoms and emotional regulation in daily life. Chronic pain patients have significantly lower daily ER success than healthy controls ($d = -0.48$). Within-person analyses show that ER success decreases when pain is higher than usual ($d = -0.72$), indicating that pain flare-ups can deplete cognitive-affective resources and impair regulation (Wierenga, K. L et al., 2017).

Similarly, momentary increases in pain are associated with decreased variation in ER strategy use, suggesting that physical distress can lead to psychological rigidity. Clinical trials show that ER skills-focused interventions, such as online Dialectical Behavior Therapy (iDBT-Pain), significantly improve emotion dysregulation ($d = -0.46$) and reduce objective pain intensity compared to treatment as usual.

Autoimmune and Neurological Disorders

Chronic autoimmune and neurological conditions such as Systemic Lupus Erythematosus (SLE), Multiple Sclerosis (MS), and Rheumatoid Arthritis (RA) are characterized by unpredictable symptom trajectories and high emotional demands.

In Systemic Lupus Erythematosus, emotional dysregulation has been linked to adult attachment representations. Patients with SLE show a high prevalence of insecure attachment styles, including unresolved (32.5%) and entangled (25%) states of mind. These insecure attachment models are associated with alexithymia and dissociative coping, which can lead to emotional avoidance and an inability to fully recognize somatic cues, potentially exacerbating perceived stress and immune dysregulation.

In Multiple Sclerosis, emotion dysregulation is significantly higher, and distress tolerance significantly lower, compared to healthy controls. MS patients with low distress tolerance often rely on avoidant and escape behaviors, which are linked to elevated emotional reactivity and difficulties performing goal-directed activities.

For Rheumatoid Arthritis, prospective research demonstrates that baseline ER styles predict changes in perceived health and positive affect over a 1.5-year follow-up period. Specifically, valuing and intensely experiencing emotions (high emotional orientation) predicts a decrease in positive affect over time, while difficulties in emotional clarity predict an increase in perceived disease activity (Zangi, H. A et al., 2009).

Furthermore, a systematic review reveals that across autoimmune and psychiatric conditions, poor emotion regulation is associated with higher levels of systemic inflammatory markers, such as C-reactive protein (CRP) and Interleukin-6 (IL-6), whereas strong ER skills predict lower inflammatory activity. This suggests a biological pathway through which emotional processing influences physical health in autoimmune disorders.

Table 3. Emotion Regulation Strategies and Their Psychological and Somatic Outcomes Across Chronic Illnesses

Chronic Illness	Emotion Regulation Strategy	Psychological Outcome	Somatic / Clinical Outcome
Cancer	Cognitive reappraisal	Reduced anxiety, depression, and fear of cancer recurrence	Improved psychological well-being and quality of life
Cancer	Rumination	Increased depressive symptoms and	Greater fear of recurrence and poorer adjustment

		psychological distress	
Diabetes	Emotional regulation skills (reappraisal, emotional clarity)	Lower diabetes distress	Improved glycaemic control (lower HbA1c) and better self-management
Diabetes	Emotional dysregulation	Higher diabetes distress	Poor self-care behaviours and elevated HbA1c
Cardiovascular Disease	Cognitive reappraisal	Reduced perceived stress	Lower cardiovascular risk and mortality
Cardiovascular Disease	Expressive suppression	Increased emotional distress	Higher physiological stress and cardiovascular mortality
Chronic Pain	Acceptance and mindfulness	Greater resilience and psychological flexibility	Reduced pain interference and improved daily functioning
Chronic Pain	Catastrophizing	Greater anxiety and depression	Increased pain severity and disability
Autoimmune Disorders	Emotional awareness and adaptive regulation	Better emotional adjustment	Lower inflammatory activity and improved disease adaptation
Autoimmune Disorders	Emotional avoidance and alexithymia	Higher psychological distress	Increased perceived disease activity and poorer health outcomes

Table 3 summarizes the relationships between major emotion regulation strategies and their corresponding psychological and somatic outcomes across common chronic illness populations.

Conceptual Framework: Emotional Regulation as a Predictor of Adjustment

The theoretical and empirical evidence reviewed suggests a multi-step conceptual framework wherein emotional regulation acts as a central predictor of psychological and physical adjustment to chronic illness.

This conceptual framework begins with the onset of chronic illness and its core stressors. Once these stressors are encountered, the individual performs a cognitive appraisal, evaluating the illness as an uncontrollable threat, a loss, or a manageable challenge. This appraisal triggers emotional responses that require regulation.

At this stage, the individual deploys either adaptive or maladaptive emotion regulation strategies. The selection of these strategies leads to distinct downstream outcomes:

- Deploying adaptive strategies (e.g., cognitive reappraisal, acceptance) promotes positive adjustment, characterized by emotional stability, high self-efficacy, treatment adherence, and resilience.
- Relying on maladaptive strategies (e.g., expressive suppression, catastrophizing) leads to negative adjustment, manifesting as elevated anxiety, clinical depression, medical non-adherence, and physiological strain (such as autonomic dysfunction and systemic inflammation).

Several moderating factors influence this pathway, including:

- **Social Support:** Strong social support acts as an interpersonal resource that facilitates adaptive emotional processing and reduces the reliance on suppression.
- **Attachment Styles:** Secure attachment styles are associated with effective emotion regulation and lower psychological distress, whereas insecure attachment styles predict emotional avoidance and higher distress.
- **Illness Severity:** Severe physical symptoms, such as acute pain or glycemic instability, can deplete

cognitive-affective resources, making adaptive regulation more difficult during disease flare-ups.

- **Socioeconomic Status:** Limited financial resources can increase the overall burden of chronic illness, limiting access to psychological support and adaptive coping resources.
- **Cultural Factors:** Cultural context can moderate the impact of specific regulatory strategies. For instance, expressive suppression has been linked to increased inflammation in Western populations but not in Eastern populations, where emotional restraint may align with cultural norms and have different health implications.

Figure 1. Conceptual Framework: Emotional Regulation as a Predictor of Psychological Adjustment in Chronic Illness

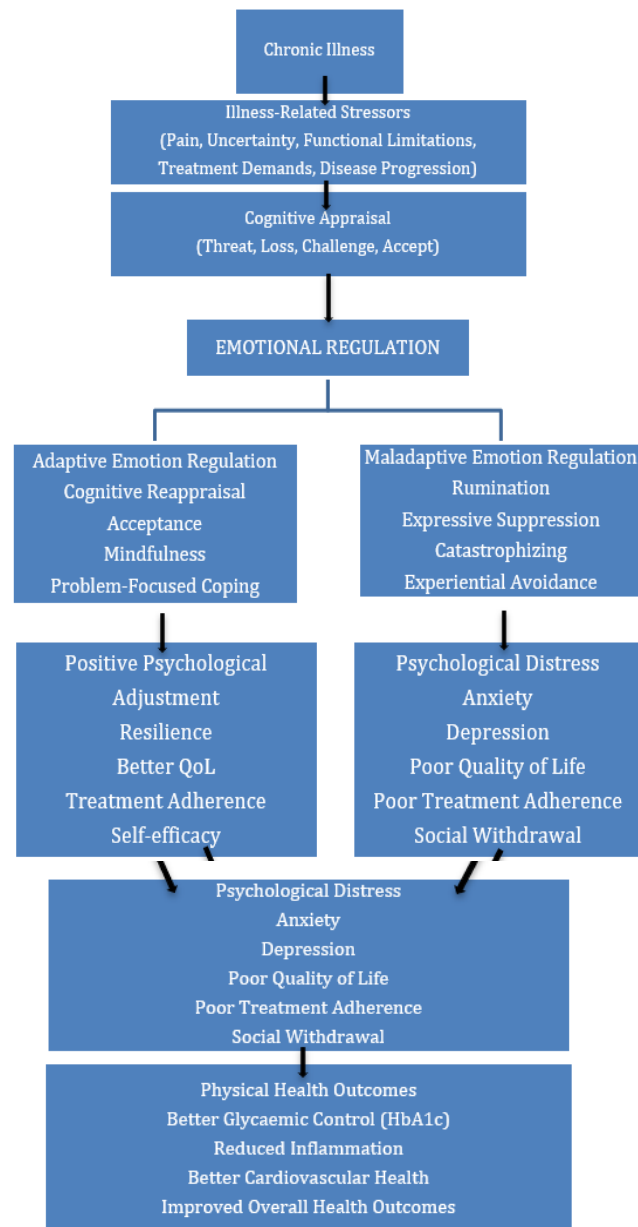


Figure Caption

Figure 1. Conceptual framework illustrating emotional regulation as a central mechanism linking chronic illness-related stressors to psychological and physical health outcomes. Adaptive emotion regulation strategies promote resilience, treatment adherence, and quality of life, whereas maladaptive strategies contribute to psychological distress and poorer health outcomes.

Clinical Implications

Assessment of Emotional Regulation

Integrating structured emotional regulation assessments into standard clinical pathways is a key step toward improving patient care. Clinicians working with chronically ill populations can utilize validated self-report instruments to identify specific regulatory deficits and guide treatment planning.

- **Emotion Regulation Questionnaire (ERQ):** This 10-item instrument measures the habitual use of cognitive reappraisal and expressive suppression. It has been adapted into variations such as the ERQ-30 (which measures 10 distinct strategies) and the ERQ-PN (which evaluates the regulation of positive versus negative emotions), allowing for a highly nuanced clinical assessment (De Jesús-Romero, R et al., 2024; Preece, D. A., & Gross, J. J. 2025).
- **Difficulties in Emotion Regulation Scale (DERS):** The DERS-36 is a comprehensive measure that evaluates six dimensions of emotional dysregulation: non-acceptance, goal-directed behavior, impulse control, emotional awareness, access to strategies, and emotional clarity. For settings with limited assessment time, brief versions such as the DERS-16, DERS-SF (18 items), and DERS-8 have been developed and validated, maintaining strong psychometric properties and clinical utility.
- **State Difficulties in Emotion Regulation Scale (S-DERS):** This 21-item instrument is designed to assess fluctuating, in-the-moment difficulties with emotion regulation, making it useful for tracking treatment progress across therapy sessions or during specific medical stressors.

Psychological Interventions

Several evidence-based psychological interventions can help patients transition from maladaptive to adaptive emotional regulation strategies, improving both psychological and somatic outcomes.

- **Cognitive Behavioral Therapy (CBT):** Traditional CBT helps patients identify and restructure dysfunctional, threat-biased cognitive appraisals of their illness, reducing negative emotional intensity and promoting behavioral activation.
- **Acceptance and Commitment Therapy (ACT):** ACT focuses on increasing psychological flexibility. Rather than attempting to eliminate difficult thoughts or physical sensations (e.g., pain, anxiety), ACT teaches acceptance, cognitive defusion, and present-moment awareness, helping patients commit to actions aligned with their core values (Güngör, S. 2026).
- **Mindfulness-Based Interventions (MBSR & MBCT):** Mindfulness-Based Stress Reduction and Mindfulness-Based Cognitive Therapy help patients develop non-judgmental awareness of somatic sensations and emotional states. This awareness reduces automatic ruminative cycles and lowers autonomic arousal.
- **Emotion-Focused Therapy (EFT) and Dialectical Behavior Therapy (DBT):** These therapies focus on improving emotional processing, distress tolerance, and behavioral modulation. Interventions such as online DBT-Pain (iDBT-Pain) and Emotion-Regulation Therapy for Cancer Caregivers have demonstrated efficacy in reducing clinical distress in chronic illness contexts.

Implications for Healthcare Professionals

To improve patient outcomes, emotional regulation support should be integrated into multidisciplinary care teams, rather than being treated solely as an external mental health service.

- **Psychologists:** Can design and deliver targeted, transdiagnostic ER interventions tailored to the specific somatic demands of different chronic conditions.

- Nurses: Often have the most frequent patient contact and can utilize brief mindfulness or acceptance-based techniques to help patients manage acute distress during medical procedures or symptom flare-ups.
- Physicians: Can incorporate ER screening into routine consultations, helping to identify patients at risk for medical non-adherence due to emotional dysregulation or high disease-related distress.
- Palliative Care Teams: Can implement acceptance- and meaning-making interventions to help patients process anticipatory grief, existential anxiety, and physical decline, improving overall quality of life near the end of life.

Research Gaps and Future Directions

While the empirical literature demonstrates a clear link between emotional regulation and psychological adjustment in chronic illness, several research gaps remain. First, much of the existing evidence is based on cross-sectional designs, which limit the ability to draw causal conclusions regarding how ER capacities influence long-term disease trajectories.

To address this, future research should prioritize longitudinal cohort studies and intensive within-person designs, such as ecological momentary assessment (EMA) and daily diary methods. These intensive designs are necessary to capture how daily symptom fluctuations (e.g., pain flare-ups, glucose changes) interact with real-time emotional regulation and behavioral compliance.

Second, there is a clear need to investigate the biological mechanisms through which emotional regulation influences physical health outcomes. Future studies should incorporate objective biological markers including heart rate variability (HRV), pro-inflammatory cytokines (e.g., IL-6, TNF-alpha), cortisol slopes, and neuroimaging parameters to clarify how adaptive emotional processing can reduce physiological wear-and-tear and slow disease progression.

Third, current research is limited by a lack of culturally and socioeconomically diverse samples, with low- and middle-income countries being underrepresented. Given that cultural norms can influence the adaptiveness of specific regulation strategies (such as expressive suppression), evaluating these pathways across diverse cultural contexts is essential for developing culturally sensitive care models.

Finally, future intervention research should focus on testing scalable, digital, and low-cost eHealth interventions, such as smartphone-delivered ACT or mindfulness protocols. These digital approaches can help overcome systemic barriers to psychosocial care, making evidence-based emotional regulation support more accessible to patients with chronic conditions globally.

Limitations

Despite the structured approach adopted in this narrative review, several limitations should be acknowledged. Unlike systematic reviews, this review did not employ a formal PRISMA-guided screening process or standardized risk-of-bias assessment. Consequently, selection bias cannot be entirely excluded. Furthermore, heterogeneity across chronic illness populations and study methodologies limited direct comparison of findings. Nevertheless, the review provides an integrative synthesis of current evidence and identifies important directions for future research.

CONCLUSION

This narrative review synthesizes empirical evidence demonstrating that emotional regulation is a primary transdiagnostic predictor of psychological and physical adjustment to chronic illness. When faced with the chronic stressors, uncertainty, and physical challenges of a somatic diagnosis, an individual's ability to regulate their internal emotional state serves as a critical determinant of their clinical trajectory.

Adaptive emotional regulation strategies most notably cognitive reappraisal, acceptance, and mindfulness promote healthy adjustment by reducing anxiety and depression, protecting cognitive resources, enhancing self-efficacy, and lowering physiological stress. In contrast, relying on maladaptive strategies including expressive suppression, rumination, catastrophizing, and experiential avoidance predicts psychological distress, disease-related distress, medical non-adherence, and physiological strain.

These findings highlight the clinical value of incorporating structured emotional regulation assessments and evidence-based, third-wave behavioral interventions (e.g., ACT, MBSR, DBT) into standard medical care. To advance the field, future research must utilize longitudinal and ecological momentary assessment designs, explore the biological pathways linking emotional processing to physical health, and develop scalable, culturally sensitive interventions to support the diverse needs of individuals living with chronic conditions worldwide.

Figures and Tables

Table 1 Definitions of Key Concepts

Concept	Definition
Emotional Regulation	The intrinsic and extrinsic processes involved in monitoring, evaluating, experiencing, and modulating emotional reactions—including their intensity, duration, and behavioral expression—to achieve goals and adapt to situational demands.
Psychological Adjustment	The dynamic, multidimensional process of returning to a state of emotional equilibrium and psychological homeostasis after a major life disruption, such as a chronic illness diagnosis.
Chronic Illness	Non-communicable somatic diseases characterized by long duration, slow progression, complex etiologies, and the necessity for permanent, complex daily self-management.

Table 2 Adaptive vs Maladaptive Strategies

Adaptive Strategy	Description & Benefits	Maladaptive Counterpart	Description & Consequences
Cognitive Reappraisal	Reinterpreting the meaning of a situation to reduce its emotional impact. Lowers subjective negative affect and physical distress without requiring high cognitive effort.	Rumination	Repetitively focusing on the causes and consequences of distress. Prevents emotional processing, maintains negative affect, and is a major predictor of depression.
Acceptance	Experiencing thoughts and physical feelings non-judgmentally. Enhances psychological flexibility, reduces secondary distress, and supports long-term self-management.	Experiential Avoidance	Actively trying to escape or suppress difficult thoughts and feelings. Impairs long-term coping, limits active self-management, and is linked to clinical distress.
Mindfulness	Maintaining non-judgmental, present-moment awareness. Helps patients view distressing physical symptoms as transient physical events, reducing cognitive reactivity.	Expressive Suppression	Attempting to inhibit the outward behavioral expression of emotions. Highly cognitively demanding, fails to reduce internal distress, and increases physiological strain.

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