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Review

RESEARCH ADVANCES IN CLINICAL PSYCHOLOGY OF CHRONIC DISEASES

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SUMMARY

Chronic diseases represent one of the most pressing global health challenges, with increasing prevalence due to aging populations and lifestyle-related factors. In recent decades, clinical psychology has played a pivotal role in understanding and managing the psychological aspects of chronic illnesses. This paper aims to synthesize current research on the bidirectional relationship between psychological factors and chronic disease progression, emphasizing recent advances in theoretical models, empirical findings, and clinical interventions.

Defensive functioning, alexithymia, and psychological flexibility emerge as crucial dimensions. A greater use of mature defense mechanisms appears to be linked to better psychosomatic well-being, while reliance on immature defenses is associated with increased anxiety-depressive symptoms and a more negative perception of health. Similarly, higher levels of alexithymia are connected to greater psychological distress and reduced interoceptive awareness. In contrast, psychological flexibility shows a protective role, promoting better mental health and adaptive functioning.

These findings highlight the need to deepen our understanding of the psychological underpinnings of chronic illness, especially through approaches that account for individual differences in emotional regulation and coping. While existing research has offered promising directions, the field would benefit from longitudinal studies and the systematic inclusion of psychological variables in chronic care pathways. Integrating such perspectives may support more comprehensive and person-centered interventions, improving both clinical outcomes and patients' subjective experiences.

Key words: *clinical psychology - chronic diseases - emotional regulation – adherence - psychosomatic health - integrated care*

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PSYCHOLOGICAL DIMENSIONS OF CHRONIC DISEASE

Chronic diseases, such as diabetes mellitus, cardiovascular disorders, autoimmune conditions, and chronic pain syndromes, affect more than 1.3 billion people worldwide, cause 43 million deaths annually, and account for approximately 70% of the global healthcare burden (Global Burden of Disease Collaborative Network 2024; World Health Organization 2022, 2024). Beyond their physical toll, these conditions have a strong impact on psychological health. Research over the last two decades has increasingly recognized that psychological processes are not only consequences of physical illness but also causal factors, potentially influencing disease onset, progression, and treatment outcomes (Caputo et al. 2022; Cohen et al. 2012; Fiorini Bincoletto et al. 2023; Kiecolt-Glaser et al. 2002; Li et al. 2025; Martino et al. 2021a; Ricciardi et al. 2024). This paradigm shift calls for a deeper integration of clinical psychology into chronic disease management, supporting an integrative perspective of physical and mental health.

The challenges inherent in living with a chronic condition frequently trigger a wide spectrum of emotional and cognitive responses, including denial, fear for the future, hopelessness, and maladaptive coping strategies (Martino et al. 2023; Klocek & Řiháček 2023; Moneta & Kaechele 2023). According to Gross's Process Model of Emotion Regulation (1998), strategies fall along an implicit–explicit continuum. Among these, defense mechanisms, defined as implicit emotional regulation strategies, have emerged as essential processes bridging the physical and psychological domains of health (Békés et al. 2023; Di Giuseppe 2024). These automatic and unconscious processes enable individuals to manage internal conflicts and stressors, contributing to psychological stability despite ongoing medical adversity (Di Giuseppe & Conversano 2022; Di Giuseppe et al. 2024b; Silvestro et al. 2025b).

Stress represents a pervasive component of chronic illness and may significantly worsen both physiological and psychological functioning, thereby accelerating disease progression and complicating treatment (Sturgeon & Zautra 2013; Martino et al. 2021b). Its impact is mediated in part by neuroendocrine and immune alterations, which further compromise the maintenance of homeostasis (Murdaca et al. 2022; Martino et al. 2019). These dynamics underscore the need to embed stress assessment and management within an integrated chronic-care framework.

Adherence to medical treatment represents one of the most critical outcomes shaped by psychological factors. Motivation, illness perceptions, personality traits, and affective patterns collectively determine patients' willingness and adherence to therapeutic regimens (Horne & Moon 2025; Axelsson et al. 2011). Within a person-centered approach, the clinician has the responsibility to place the patient at the center of the therapeutic process, fostering a climate of trust and collaboration to promote compliance (Di Giuseppe et al. 2024a; Farina et al. 2023; Pedroso de Lima et al. 2023; Ridolfi 2024). Addressing these psychosocial dimensions through tailored psychological interventions may enhance mental well-being, improve treatment adherence, and positively affect long-term outcomes (Lammila-Escalera et al. 2024; Grevenhaus et al. 2024; Rossi et al. 2024).

Evidence from diverse clinical domains, including oncology, gastroenterology, dermatology, respiratory medicine, and immunology, has consistently shown that psychological functioning plays a key role in determining health trajectories, impacting emotional adjustment, adherence, perceived quality of life and wellbeing of patients (Di Giuseppe et al. 2019; Martino et al. 2020, 2025).

This growing understanding underscores the importance of a holistic and multidisciplinary management of chronic diseases, where psychological assessment and intervention are integral components of care (Jiakponna et al. 2024). Particular attention is needed for emotional regulation, stress management, adherence behaviours, and the use of innovative digital health tools to support patients' psychological and physical well-being (Marcolino et al. 2018).

The present paper aims to review recent advances in the field of clinical and health psychology related to chronic disease, with a focus on the interplay between psychological processes and physical health outcomes. We explore key mechanisms underlying patient adaptation, including implicit regulation strategies and defensive functioning, and discuss implications for integrated care and future research directions.

THE INTERPLAY BETWEEN CHRONIC CONDITIONS AND PSYCHOLOGICAL FACTORS

The relationship between chronic diseases and psychological factors is complex and multifaceted. The bio-psycho-social model provides an essential framework for understanding the various dimensions of this relationship and for identifying potential pathways that connect the physical, psychological, and social domains (Wade & Halligan 2017).

Systemic inflammation serves as a pivotal etiological nexus linking somatic and psychiatric disorders. Lu et al. (2022) found that in patients with coronary heart disease, elevated levels of TNF-α and IL-6 corresponded with more severe depressive symptoms, with TNF-α alone predicting subsequent cardiac events. Similarly, Mrđa et al. (2025) reported that in rheumatoid arthritis, higher IL-6 levels were associated with depression severity, and TNF-α correlated with symptom intensity. Extending these findings to respiratory diseases, Hou et al. (2023) showed that IL-6 was linked to greater depressive burden in severe asthma, while monocyte chemoattractant protein-1 (MCP-1) predicted anxiety symptoms. These converging results identify IL-6 and TNF-α as central inflammatory markers of depression in chronic somatic disorders, reinforcing the bidirectional interaction between immune activation and affective regulation (Jiao et al. 2025; Zheng et al. 2023).

Beyond biological markers, the subjective experience of chronic illness contributes significantly to psychological vulnerability. DeLong et al. (2025), analyzing UK Biobank data, found that patients with chronic multimorbidity exhibited markedly higher rates of subsequent depression diagnoses over a 6.8-year follow-up. The progressive loss of autonomy and disruption of daily functioning contribute to heightened emotional distress and a measurable decline in health-related quality of life, thereby increasing vulnerability to anxiety, depressive states, and social isolation (Silvestro et al. 2025a; Strober et al. 2022).

Psychological processes such as emotion regulation (Kollin et al. 2024; Roy et al. 2018), alexithymia (Martino et al. 2020a), and psychological flexibility (Spatola et al. 2021) play key roles in driving adaptation and health-promoting behaviours across chronic conditions, ultimately influencing disease trajectories.

In a cross-sectional sample comparing Severe Allergic Asthma (SAA) and Hymenoptera venom anaphylaxis (HVA) patients, Martino et al. (2025) found that higher defense functioning was associated with psychological well-being and accounted for 39% of the variance in perceived physical health. Silvestro et al. (2025b) examined defense mechanisms in inflammatory bowel disease, demonstrating that immature defenses predominated and correlated with increased psychological distress, poorer treatment adherence, and reduced health-related quality of life. In oncology, Di Giuseppe et al. (2018) reported that highly adaptive defenses were linked to enhanced physical and emotional well-being, whereas immature implicit emotion regulation strategies such as disavowal defenses predicted maladaptive coping, sleep disturbances, and reduced survival probability.

Alexithymia, defined as difficulties in identifying and verbalizing emotions accompanied by a cognitive style favouring external over internal experience (Bagby et al. 1994), has been conceptualized in chronic illness as a marker of reduced integration between emotional processing and bodily awareness (Kano & Fukudo 2013). This condition has been associated with anxiety,

depression, and various somatic complaints in patients with inflammatory bowel disease (Martino et al. 2020b, 2023). Among asthma patients, alexithymia prevalence ranges from 9% to 62.8%. It has been linked to increased hospitalization rates, reduced pulmonary function, and impaired symptom recognition, underscoring its significant impact on asthma management (Silvestro et al. 2023; Ricciardi et al. 2023). Furthermore, studies in general populations have found that higher alexithymia levels are associated with greater risk of chronic pain, increased psychological distress, and lower life satisfaction (Shibata et al. 2014).

Conversely, psychological flexibility, defined as the ability to remain focused on the present moment and adapt behaviour according to personal values (Hayes et al. 2006), has been shown to promote more effective coping, reduce distress, and improve health-related behaviours in individuals with chronic pain, thereby supporting better long-term outcomes (Fang & Ding, 2022). In patients with type 1 diabetes, greater psychological flexibility has been linked to lower diabetes distress and better glycaemic control, indicating its potential as a target for interventions aimed at improving well-being and health outcomes (Nicholas et al. 2022).

This complex interplay between physical and psychological factors highlights the importance of adopting an integrated therapeutic approach to chronic illness that simultaneously addresses the biological, psychological, and social determinants of health.

CLINICAL PSYCHOLOGICAL INTERVENTIONS IN CHRONIC ILLNESS

Evidence-based psychological interventions have demonstrated significant benefits in the management of chronic diseases. Cognitive-behavioral therapy (CBT) has been widely applied to reduce symptoms of depression and anxiety in patients with a wide range of chronic conditions, including diabetes (Abbas et al. 2023), cardiovascular disease (Reavell et al. 2018), and chronic pain (Catalano et al. 2017; Barresi et al. 2025). Other approaches, such as Acceptance and Commitment Therapy (ACT), mindfulness-based stress reduction (MBSR), and motivational interviewing (MI) have also demonstrated efficacy in enhancing emotional regulation and encouraging positive health behaviors (Cattivelli et al. 2015; Alsubaie et al. 2017; Uzun & Gürhan 2024).

In recent years, digital health tools and remote psychological interventions have expanded the reach of these interventions, improving access for individuals with mobility limitations or living in underserved areas (Lund-Jacobsen et al. 2024; Nissling et al. 2023). A systematic review and meta-analysis by White et al. (2022), which included 70 randomized controlled trials across 17 chronic conditions, found that self-guided web-based psychological interventions, primarily CBT-based, were more effective than control conditions in reducing symptoms of depression, anxiety, and general distress. However, the evidence regarding their effectiveness for specific medical conditions remains unclear, highlighting the need for further high-quality research.

Nonetheless, these findings suggest that internet-delivered psychological support may play a valuable role in mitigating emotional distress and improving mental health outcomes in individuals with chronic illnesses. When tailored to the unique challenges of chronic disease management, online interventions may offer a scalable and cost-effective complement to traditional in-person therapies.

DISCUSSION

The growing recognition of the mind-body connection in chronic disease management necessitates a redefinition of clinical roles and collaborative models in healthcare. The integration of psychological screening tools in routine medical practice is gaining traction, enabling early detection of subclinical psychopathology. Multidisciplinary approaches that incorporate psychological support into standard care pathways have been associated with improved patient satisfaction, adherence, and clinical outcomes (Giusti et al. 2020).

The findings discussed highlight a significant association between defensive functioning and perceived psychophysical well-being, suggesting that defense mechanisms may mediate the relationship between psychological vulnerability and illness experience. Additionally, alexithymia emerges as a transversal risk factor in chronic diseases and is associated with higher psychological distress and reduced interoceptive awareness. On the contrary psychological flexibility represents a protective factor: higher levels correlate with better mental health perception and fewer psychological symptoms.

Despite promising findings, several challenges remain. These include heterogeneity in patient responses to psychological interventions, underdiagnosis of psychological conditions in medical settings, limited training among healthcare providers in psychosocial assessment, and a lack of longitudinal studies exploring long-term outcomes. The use of validated assessment tools and targeted interventions, including digital formats, may represent a relevant opportunity, especially in contexts where psychological distress is underestimated. Future research should focus on personalized approaches that consider individual psychological profiles, the impact of sociocultural variables, and mechanisms underlying treatment efficacy.

CONCLUSION

Clinical psychology has become an essential component in the comprehensive care of individuals with chronic diseases. Recent research underscores the importance of psychological assessment, targeted interventions, and interdisciplinary collaboration. Moving forward, integrating psychological insights into routine care may enhance both mental health and physical outcomes, ultimately improving the lives of patients facing long-term illness.

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Contribution of individual authors:

Mariagrazia Di Giuseppe, Chiara Spatola, Emanuele Maria Merlo & Orlando Silvestro: conceptualization, data curation, formal analysis, investigation, methodology, project administration, visualization, validation, writing original draft, writing review & editing, supervision.

Concetto Mario Giorgianni, Giada Juli, Antonino Catalano & Gabriella Martino: conceptualization, visualization, writing original draft, writing review & editing.

All authors approved the final manuscript.

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