



The Impact of Chronic Diseases on Mental Health: An Overview and Recommendations for Care Programs

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Abstract

Purpose of Review The current achievement of medical advancement is noteworthy; however, the occurrence of chronic diseases is increasing day by day, with a significant percentage of affected people are suffering from a mental health crisis. This article aims to present a thorough yet brief review of methods that can be employed to build the emotional wellness of chronic patients.

Recent Findings The mental health care strategies include resilience-building, coping skills training, professional counseling, and lifestyle adaptations. Additionally, the article highlights the efficacy of several modern interventions, such as mindfulness-based therapies, cognitive behavioral therapy, eye movement desensitization, and recovery from stress therapy.

Summary The global burden of chronic illness emphasizes the pressing need to mitigate mental health problems among chronic patients. By providing actionable insights, our study clears the path for targeted interventions and holistic approaches for chronic disease patients. Moreover, the article suggests to policymakers and clinicians the need for collaboration and multifaceted interventions.

Keywords Chronic diseases · Mental health · Psychological stress · Support · Strategies · Mitigation

Background

The World Health Organization (WHO) reported in 2022 that globally, 17 million deaths took place each year owing to chronic diseases such as cancer, diabetes, cardiovascular, and respiratory diseases [1]. Within the next five to six years, chronic diseases are projected to hold a 77% share of the entire burden of diseases worldwide [2]. This pattern is incredibly distressing. The medical advances in the last ten years have been tremendous. Despite that, epidemiologists have observed a lack of progress in overall health indicators in current years in comparison with pre-2015 years [3]. In the USA, a staggering 53.8% of adults aged between 18 and

34 years have reported suffering from one chronic condition. 22.3% of adults are ill with multiple chronic diseases. Obesity and depression were the most prevalent among other recurring illnesses [4]. The Australian Bureau of Statistics has stated that mental disorders and behavioral conditions are the most commonly reported chronic conditions in their country [5]. This data was even reported before the pandemic. This data was even reported before the pandemic. The pandemic has certainly altered the mental health of general people in a terrible way, which has been documented in a lot of reports [6–8]. Nonetheless, the statistics on the psychological well-being of patients suffering from chronic illness reveal an even more depressing narrative. In a study containing more than 3000 individuals, researchers found that there is a direct relationship between chronic disease and mental health [9]. In blood cancer patients, anxiety and depression were most prevalent after the first month of chemotherapy [10•]. Not only the cancer patients but also the cancer survivors also face psychological conditions. In a study of the Chinese population, 48.2% of cancer survivors were reported to be suffering from depression [11••]. A meta-analysis demonstrated that having any type of diabetes increased the possibility of depression by twofold [12], while

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another study found that type 2 diabetes (T2D) patients suffer more from depression in comparison with healthy people [13]. Collectively, these studies illustrate that the psychological condition of chronic patients is deteriorating, and the mental health among chronic patients is going to be a disquieting problem in forthcoming days all over the world. The emotional wellness of chronic patients is not a problem in any specific country anymore, rather it has become a global concern. If we do not focus on it now, the problem will soon get out of hand.

The current literature does hint at the significance of the mental crisis among patients suffering from chronic illness. However, we have observed that most of the scientific paper centers either around specific disease models or any distinct intervention/lifestyle adjustments. For instance, Galway et al. concentrated on a rigorous review of investigating the efficacy of psychosocial intervention only in newly identified patients in the oncology department [14]. Although Paluska et al. did not focus on chronic patients, the author recommended physical activity for various populations. They reviewed the effect of physical activity on the emotional well-being of common people [15]. Arango et al. provided practical suggestions for policymakers, but their attention was not focused on chronic patients [16]. It is good to focus on one thing at a time. However, we also need to look for an overall perspective since strategies are often implemented considering the whole picture.

Therefore, in the present study, we aimed to discuss the mental health problem of chronic patients in its entirety yet briefly. Specifically, we seek the answers to the following questions:

- (a) What are the approaches for mental health support?
- (b) Can a deliberate change in lifestyle habits improve the emotional health of chronic patients?
- (c) What modern interventions are available to us?
- (d) What are the fundamental takeaways for policymakers and researchers?

Bolstering Mental Health and Well-being

Building Resilience

Resilience encompasses the ability to navigate through adverse situations by regaining one's strength and composure. In essence, a resilient person can effectively adapt and prioritize self-care amidst life's disruption [17]. As people grow older, their resilience and coping skills strengthen. However, elderly chronic patients experience extreme emotional turmoil. Solano et al. found that colorectal cancer patients suffering from depression had lower resilience [18]. Educating patients to gain control of their feelings and

helping them develop resilience can go a long way toward managing these harsh conditions. In fact, Luo et al. observed that building resilience in type 1 diabetes (T1D) patients had a profound impact on their quality of life (QOL) [19]. Nonetheless there is a lack of standardized procedures that can measure resilience in chronic patients [20]. Additionally, there are still a lot of areas that need to be explored involving resilience in all chronic patients [21].

Coping Skills

According to the 'Stress & Coping' theory of Lazarus, first, an individual must determine the level of stress, and only after that are cognitive and behavioral efforts to be made to handle the stressful condition [22]. Interventions that enhance the mechanism of coping can recover the stressful status of cancer patients [23••]. In line with that, Keynejad et al. found that problem-solving training reduced depressive symptoms in older adults [24••]. According to the systematic review of Andersen et al., coping skills decreased anxiety and depression in blood cancer patients [25]. Overall, we can say that the lives of chronic patients change as they know they suffer from a chronic disease. Given this, both resilience and coping skills can be useful tactics to lead a life without having any mental illness.

Mitigating Stigma

According to the National Academies Press, four steps were identified to reduce stigma. These are 1) educational anti-stigma interventions such as mental health literacy campaigns, 2) building social contact, for instance, peer service by healthcare workers, 3) advocacy, and 4) legislative and policy change [26]. Corrigan et al. reported that educational intervention along with acceptance and commitment therapy has been useful in adjusting emotional wellbeing and reducing self-stigma [27]. Shahwan et al. advised that direct contact with experienced healthcare workers can help to reduce stigma. They also recommended that advocacy by prominent groups or figures can aid in decreasing stigma [28]. Cook et al. reported that utilizing policy interventions in the USA could protect people from the stigma-associated situation [29]. Stigma is a unique factor in this context. Nonetheless, Stigma is negatively correlated with the QOL of pancreatic cancer patients [30]. A study in US population found that stigma possess a significant association with depressive behavior among lung cancer patients. Surprisingly, they also discovered that smoking was not at all associated with the stigma related to lung cancer [31]. There is a paucity of research related to interventions that can prevent stigma in chronic patients. Therefore, more research is needed to find a standardized intervention to fight stigma. We have

summarized and shown the four basic strategies to support and promote the mental health and mental well-being of people suffering from chronic diseases in Fig. 1.

Professional Counselling and Training

According to a recent study, Australian people suffering from mental health disorders have expressed low confidence in switching their lifestyle in terms of physical activity, weight maintenance, and nutritional intake [32]. This study was even performed in general people with mental illness. It is indisputable that chronic patients encountering their complex problems would also struggle even more to modify these lifestyle changes. Psychological intervention by health care professionals and paraprofessionals can become effective in combating this distressful situation. Lately, a step-by-step intervention has been proved to aid in transforming the psychological status of a small group of rectal cancer patients after surgical treatment. The study reported that healthcare professionals performed one-on-one conversations with patients to assess compliance, disease comprehension, and healthcare needs. The study also emphasized the benefit of post-surgery follow-up by telephone [33]. Additionally, nurse led intervention was also reported to be beneficial in decreasing anxiety and depression like behaviors among cancer patients who were receiving chemotherapy [34]. In another study, weekly telephone call by paraprofessionals for a duration

of 6 months positively altered depressive behavior of type 2 diabetes patients [35].

Fostering Connections with Peers and Cultural Community

Connectivity and communication with peers and communities can improve the mental health condition of people suffering from chronic diseases. According to Hossain et al., effective peer support programs contain three major components: emotional, informational & appraisal support. Emotional support includes portraying empathetic and encouraging attitude towards individuals, whereas informational support entails proposing alternatives & offering guidance and appraisal support incorporates providing positive assessment together with affirmation [36]. A systemic review by Litchman et al. revealed that peer support can be an effective tool in enhancing the mental health and QOL of individuals with diabetes [37]. However, study lead by Thompson & colleagues demonstrated a lack of clarity regarding the effectiveness of peer support, as well as inconsistencies in how peers are defined, shortcomings in research designs and intervention reporting, and significant variability in outcome measurement [38]. In view of this, it should be noted that formal peer support is a relatively recent addition to the arsenal of tools for combating mental illness in chronic patients, with protocols starting to emerge in peer-reviewed journals only recently [39]. This suggests that the true effectiveness of this approach may become clearer over time. In a related study, Elliot et al.

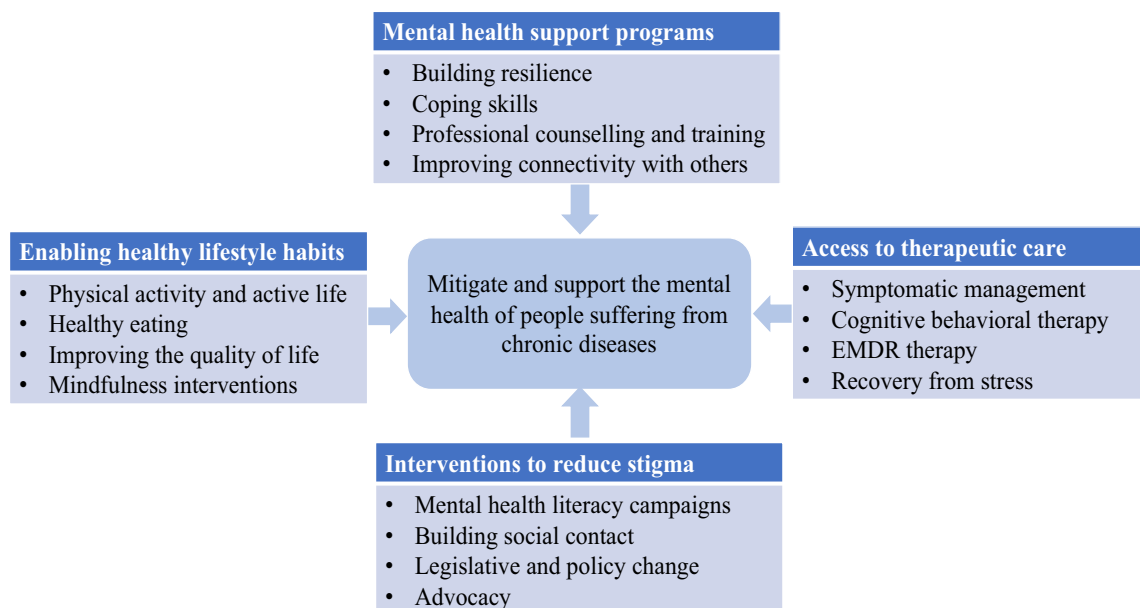


Fig. 1 The diagram summarizes the four basic strategies (non-hierarchical) to support and promote the mental health and mental well-being of people suffering from chronic diseases. EMDR: Eye Movement Desensitization and Reprocessing

explored preferences for the delivery of peer support among patients with non-dialysis chronic kidney disease and their caregivers. Their findings highlighted challenges in accessibility stemming from geographic and ethnocultural diversity in Canada [40]. Shaw et al. investigated the influence of culture in different aspects of healthcare system such as treatment strategy, preventive measures, doctor-patient communications, screening practices, adherence to treatment and health literacy levels [41]. A study exploring health priorities of diverse ethnocultural communities in Canada- including Somali, Chinese, Russian and Spanish speakers revealed significant variations in what each community values most. While Somali and Spanish- speakers put a lot of emphasis on spiritual wellness including religious activities & prayers, Russian and Chinese communities focused more on self-discipline, physical exercise and stress management [42]. Therefore, culturally tailored interventions are essential to tackle mental health of chronic patients. Certainly, Kim et al. found that by involving in culturally appropriate activities older Korean immigrants in USA developed positive emotions and improved their social connections [43]. Another study by Joo et al. in the USA found that culturally competent intervention did improve the clinical and mental health outcomes among Asian immigrant diabetes patients [44]. Ultimately, enhancing ties with peers and nurturing bonds within one's local community can potentially improve the mental health of individuals grappling with chronic illnesses.

Enabling Healthy Lifestyle Habits

Physical Activity and Active Life

Physical exercise differs from patient to patient depending on the situation. But, for most of the time, medical professionals endorse physical activity alongside any other therapies in chronic patients. This is especially true in the case of cancer [45]. Studies have shown that exercise reduced both lethargy and depression in breast cancer surviving patients [46]. In another study, dementia patients living in assisted care facilities were asked to complete the activities of everyday living which consisted of dressing, bathing, eating, making bed, washing dishes and setting tables on their own. Notably, these activities coupled with physical workout altered depression symptoms of the patients [47]. Yoga which consists not only physical exercise but also breathing exercise and meditation also appeared to be helpful in improving the mood of chronic patients such as breast cancer patients [48]. Moreover, in young cancer patients aged between 18 to 39 years yoga was reported to decrease stress like symptoms [49]. While it may be contradictory for bone metastases patients to perform exercise yet a study in Australia has reported that physical workout adjusted mental

health condition of these patients in a positive manner [50]. Collectively, the studies support the idea that active life style and bodily workout can aid in shifting mental health concerns of different chronic patients.

Healthy Eating

Recently, Mary et al. reported that studies to understand the relationship between diet and QOL involving older people are sparse [51]. In line with their observation, we also observed a lack of research on healthy eating and mental health of chronic patients. Despite the scarcity of research, we did find some studies that correlated nutrition with the mental health of chronic patients. To begin, one study found that food insecurity can lead to depression in cancer patients [52]. Additionally, malnutrition was found to be associated with emotional well-being in cancer patients [53, 54]. Moreover, consumption of proinflammatory diet was found to be associated with increased risks of long-term depression & anxiety in multiple sclerosis patients, [55]. Cheng et al. found that the association between the dietary inflammatory index and depression risk appeared to be more pronounced in male patients suffering from chronic diseases [56]. A recent meta-analysis showed that dietary intervention especially taking hypocaloric diets are positively associated to reduce depressive behavior among metabolic diseases (T2D, hypertension & obesity) patients [57]. Change of diet effectively reduced depressive behavior among colorectal cancer patients in Chinese population [58]. Altering diet significantly reduced depression and anxiety in type 2 diabetes women [59]. Interestingly, a clinical trial with rheumatoid arthritis patients revealed that anti-inflammatory diet positively affected patients to reduce disease activity but did not significantly improved QOL [60–62]. Another study found that there was no effect on mental health of cardiovascular patient due to change of diet [63]. While diet may not change mental health issues in every single chronic disease but it did help in certain chronic diseases. So, more study is necessary regarding the effect of healthy eating in changing mental health illness in chronic patients.

Improving the QOL

QOL encompasses an individual's subjective assessment of their worth in terms of aspirations, prospects and interests in comparison with the societal norm [64]. QOL can be affected by a variety of things. Literature shows that low QOL is associated with depression and anxiety in chronic patients. For example, studies in African breast cancer patients have revealed that depression and anxiety can impact their QOL in a negative way [65]. Similar result was observed in Malaysian hematological cancer patients [66]. Male suffering from cardiovascular disease

also demonstrated low QOL [67]. These studies indicate that improving QOL might be a way to combat depression and anxiety disorder of chronic patients. So, emphasis should be given to interventions that can alter QOL in a positive way. Most of the studies in literature support the notion that improving QOL can be advantageous for mental illness of chronic patients. Studies in a mixed race of cancer patients have exhibited that Yoga improved emotional wellness of people by increasing their QOL [48]. Increasing QOL by a lifestyle program directly affected capacity of T2D women to deal with stress related conditions [68]. In T2D patients, an intervention which centered on proactive coping mechanism increased their QOL. In the end, the intervention resulted in better management of self-care in favor of patients [69]. While exercise could not recover QOL on dementia patients, activity of daily life (ADL) did increase QOL [70]. Hence, importance should be given to interventions that can positively change QOL.

Access to Therapeutic Interventions

Mindfulness Interventions

While there are several techniques reported in literature involving mind management [71], Mindfulness-based stress reduction (MBSR) and mindfulness-based art therapy (MBAT) appeared to us as more frequent than other methods. MBSR utilizes a handful of techniques including ‘Beginner’s mind’, ‘Letting go’, ‘Body scan’, ‘Non-judging’, ‘Non-striving’ & etc. Beginner’s mind involves approaching every situation with a new outlook. Fostering an attitude of acceptance without any attachment means ‘Letting go’. ‘Body scan’ incorporates preoccupying consciousness on a particular organ. In a ‘Non-judging’ training, the patient immerses themselves in the present minute but refrains from building any criticism or evaluation. ‘Non-striving’ attitude encompasses engaging in meditation without the obligation of obtaining any predetermined goals [72]. When these MBSR practices are added with art therapies for instance, clay work or drawing, then the techniques can be termed as MBAT [73]. Records from clinical trial disclose that both MBSR & MBAT has been proven to be useful in managing stress among cancer patients [71, 74]. Additionally, in obese and diabetes patients, MBSR exhibits a profound impact on their psychological well-being which is well-documented through numerous clinical trials [75–78]. Besides, a systemic review analysis found that MBSR enhanced mental condition of chronic disease patients [79]. By practicing techniques such as MBSR or MBAT, patients can start building resilience to combat negative emotions originated by the chronic diseases. Skills such as ‘Body scan’, ‘Non-judging’ or ‘Letting go’ can ultimately help patients improve QOL.

Symptomatic Management of Mental Illness

Antidepressant medications such as Selective serotonin reuptake inhibitors (SSRIs), Serotonin and norepinephrine reuptake inhibitors (SNRIs) and tricyclic antidepressants (TCAs) have limited and low-quality evidence for effectively managing depression and pain during cancer. A 2023 Cochrane review found insufficient evidence to determine the impact of antidepressants on individuals dealing with chronic pain and depression. Currently, there is no reliable evidence for the long-term effectiveness of any antidepressant, and concerns about their safety for chronic pain management [80]. However, some antidepressants are considered safer and more tolerable than others. For instance, SSRIs like citalopram and sertraline are often recommended as first-line treatments owing to their low drug interactions [81]. SNRIs such as duloxetine and venlafaxine may be more effective for patients suffering from fibromyalgia or nerve damage [82, 83]. On the other side, TCAs (imipramine and nortriptyline) are less tolerated and pose high risks due to their cardiac toxicity and cognitive impacts [84, 85]. Yet succeeding in treating symptoms can aid in altering the mental health of patients experiencing chronic disorders. Nayak et al. examined the outcome of symptomatic relief intervention among cancer patients. They discovered that breast, neck, and head cancer patients suffer from depression and anxiety, but the symptomatic approach could effectively reverse the distressing conditions of the patients. In a meta-analysis, Li et al. found that symptom alleviation strategy influence psychological well-being of cancer patients in a positive way only when the patients took part in the therapy for more than ninety days [86]. In another study, nurse initiated symptom control program could alleviate the distress experienced by oncology patients enrolled in phase one clinical trial [87]. Palliative care intervention also could control the emotional status of stressed out pancreatic cancer patients in a positive manner [88]. But we also found studies which reported symptom managing strategies failed to produce any meaningful result in reducing mental health illness. One study reported that newly detected lung cancer patients did not benefit from symptom mitigation approach [89]. Another study revealed that early palliative care could not alter QOL in oncology patients who were in advanced stages of their cancer [90]. All in all, we feel more studies are needed to see the real picture.

Cognitive Behavioral Therapy (CBT)

CBT is a therapeutic approach which aims to alleviate mental distress and behavioral issues by aiming to modify the dysfunctional thinking such as schemas and automatic thoughts [91, 92]. Numerous studies have been conducted to investigate the efficacy of CBT in mitigating emotional

wellness of chronic patients. CBT alongside physical work-out improved depressive behavior in a Chinese population of gynecologic cancer patients [93]. CBT also lifted up the mood of breast cancer patients [47]. In Korean cancer patients, a cell phone application based CBT was employed. The researcher found that the depression & anxiety scores of intervention group dropped significantly [94]. Similar outcome was found in Australian mixed group of cancer surviving patients [95]. However, in British subjects who were identified as advanced cancer patients, CBT failed to obtain any meaningful improvement in treating depression [96]. Rechenberg et al. reviewed the efficacy of CBT on T1D patients and came to a conclusion that CBTs are an acceptable strategy to improve mental health condition of adolescents T1D patient [97]. Among T2D patients living in rural America, CBT effectively reduced depression like behavior [98]. During a randomized controlled study, researchers found that CBT reduced both stress and depression among adults suffering from T2D by a significant mean in comparison with the control group [99]. Study in Dutch T2D patients showed that CBT significantly improved depression after 6 months follow up but no effect was observed when the patients were followed up again after 12 months [100]. In a study consisting of Asian American and Pacific Islanders, scientists found that while CBT improved depressive symptoms in T2D patients, the perceived benefit did not sustain longer than 1 year [101]. In the end, we can see that CBT was not always helpful in treating mental health of chronic patients. It is essential to construct a standard CBT protocol and more studies are warranted as different populations are affected differently.

Eye Movement Desensitization and Reprocessing therapy (EMDR)

Although EMDR is generally employed to manage trauma, recent studies have shown its efficacy in treating depression and anxiety like behavior in chronic patients. Elisa et al. observed that EMDR was able to reduce depression in a study including a variety of cancer patients [102]. Study showed that Brain Cancer patients could benefit themselves from EMDR therapy. In terms of depression and anxiety levels, there was a clinically significant difference between experimental group and control group [103]. Another comparison study showed that EMDR was as par with CBT in combatting depression and anxiety [104]. EMDR also reduced anxiety like symptoms in head and neck cancer patients taking radiotherapy [105]. On the contrary, in gastric cancer patients EMDR could not alleviate stress [106]. The application of EMDR as a mental health facilitating strategy is relatively new. Most of the studies we found in literature were involving different cancer patients. EMDR improved fear of hypoglycemia in T2D patients. The study did not

measure the level of depression, anxiety, and stress [107]. Therefore, efficacy studies should be conducted including other chronic disease patients.

For Recovery from Stress Therapy (FOREST)

FOREST is an innovative method which helps primarily deal with work-related stress [108, 109]. This technique is built upon the following things: a) identifying and being aware of the stress, b) taking care of one's own physical and mental well-being from stress related situation and, c) synchronizing professional and personal life [110]. The very first peer-reviewed protocol, to our knowledge, was published in 2021 [110]. Later in 2023, the efficacy of this novel method on mental illness of healthcare workers were reported [64]. The study reported that this method remarkably aided in recovering mental health status of the nurses. The success of this study establishes FOREST being a potential technique to encounter the mental health condition experienced by chronic patients. Therefore, we wait to observe the efficacy study of this method in different populations especially on people suffering from a variety of chronic diseases worldwide.

Messages for Policymakers and Researchers

A growing body of evidence suggests that although there are ethical and methodological difficulties, development of a universal and selective preventive intervention is forthcoming to uphold emotional health of chronic patients. Policies need to be established so that we can translate our scientific efforts into price competent community/clinical programs for the patients. We have observed most of the studies are in pilot phase consisting of a handful of subjects. This needs to change and more funds should be provided so that research can go on in maximum throttle. Steps should be taken to ensure the professionals are getting appropriate training to tackle the situation. Moreover, clinical practitioners should pivot to interventions that possess the capacity of screening high risk population in a standardized manner. Emphasis should be given to multifaceted interventions which can be implemented on numerous levels including social, familial, and psychological. For this to work cooperation between different organizations is necessary and policy makers need to facilitate that process. Encouraging active life with a balanced diet is also essential. Furthermore, snowballing societal and political awareness for emotional wellbeing is imperative. This would include campaigns to promote benefits and savings of protective measures. However, compared with oncology or cardiovascular diseases the immediate effects against mental health disorder are non-flamboyant. Given

only five years to show people about the accomplishment, this may explain why we still perceive such minimal efforts from political parties to prioritize this field. This needs to change over time.

Conclusion

In conclusion, our study addresses the critical issues of mental health among patients with chronic illness. We do acknowledge the limitations of our review. Since chronic disease is a big umbrella that can encompass numerous diseases including cancers, stroke, diabetes, and renal and neurological illnesses, we could not capture all the chronic diseases in our review. However, we did try to provide a view of all the possible mechanisms to combat the mental illness of chronic patients alongside several key takeaways for the legislature. We have explored approaches for mental health support, emphasizing multidisciplinary approaches including health care practitioners and support groups. Lifestyle changes were highlighted as potential tools for improving emotional health, complementing medical treatments. Additionally, modern interventions for example- CBT, EMDR & FOREST offer potential in improving mental health outcomes. For policymakers and clinicians, our study underscores the need for integrated healthcare models and continued research into the interplay between chronic disease and mental health. By acknowledging these points, we can strive towards more comprehensive support systems for chronic patients, addressing both their physical and mental well-being.

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Declarations

Conflict of Interest The authors declare no conflict of interest.

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