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A SYSTEMATIC REVIEW ON PROVIDING PSYCHOSOCIAL SUPPORT FOR INDIVIDUALS WITH DIABETIC NEUROPATHY.

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ABSTRACT

Psychological aspects and the provision of psychosocial support for individuals dealing with diabetic neuropathy (DN), a prevalent and challenging diabetes complication, are crucial but often disregarded. This article mainly focuses on the typical clinical expressions of DN—persistent neuropathic pain, postural instability, and foot complications—and explores their psychosocial consequences, encompassing depression, anxiety, diminished sleep quality, and specific concerns like fear of falling and amputation. It further outlines the connection between psychological factors, particularly depression, and their adverse effects on DN, affecting self-care tasks and future health outcomes. It also discusses the current evidence on the efficacy of pharmacological and nonpharmacological approaches. Diabetes harms various organ systems and plays a significant role in causing chronic complications. Diabetic neuropathies (DN) are the most prevalent chronic complications, affecting around 50% of individuals with diabetes.

Among diabetic neuropathies, distal symmetric polyneuropathy (DSPN) and autonomic neuropathies are extensively researched. DSPN, the most prevalent type, results from damage to both small and large peripheral nerves.

Keywords: Diabetic neuropathy, distal symmetric polyneuropathy, amputation.

INTRODUCTION

Diabetic neuropathies represent prevalent chronic complications in both type 1 and type 2 diabetes.[1] While diabetic neuropathy encompasses various conditions, diabetic peripheral neuropathy (DPN) stands out as the most common and extensively studied, offering robust evidence for therapeutic interventions. Persistent insufficient insulin levels, when not addressed in the long run, may result in harm to various organs, contributing to severe health issues such as cardiovascular diseases, neuropathy, nephropathy, lower-limb amputation, and retinal-associated eye diseases leading to visual impairment and potential blindness. Indeed, the presence of these symptoms, whether alone or in combination, has been linked to higher mortality rates, compromised psychological well-being, and reduced quality of life.[2] Diabetic neuropathy (DN) significantly affects mental well-being. Depression in those with DN may hinder self-care, raising the likelihood of negative outcomes, but it frequently goes unnoticed and untreated. Addressing both physical and psychological aspects is crucial for comprehensive patient care. Effective diabetes management, however, can significantly postpone or prevent these critical complications.[3] Several psychological interventions have been studied in diabetic neuropathy (DN), indicating that acceptance and commitment therapy and cognitive behavioral therapy are successful in alleviating the effects of painful DN. Integrating screenings for microvascular complications with assessments of psychological issues like depression, diabetes distress, and sleep quality, during clinic visits is a comprehensive approach to patient care.[4]

The study aims to determine how to enhance psychological care for individuals with diabetic neuropathy.

RISK FACTORS FOR DIABETIC NEUROPATHY

BIOLOGICAL FACTORS

Genetics

Glycemic exposure

Cardiometabolic factors

Postural instability

BEHAVIORAL FACTORS

Exercise

Smoking

Poor sleep quality

PSYCHOLOGICAL FACTORS

Depression

Anxiety

Catastrophic thinking

Loss of function[5]

CONSEQUENCES OF DIABETIC NEUROPATHY ON QUALITY OF LIFE

Painful diabetic neuropathy (PDN) stands out as one of the most debilitating neuropathic symptoms, impacting up to 30% of individuals with diabetic neuropathy (DN). Its adverse effects on quality of life make it challenging to treat, as reliance on pharmacological interventions is hindered by limited effectiveness and significant dose-related side effects. [6]Consequently, achieving clinically significant pain reduction for individuals with PDN remains unacceptably low. Insufficient pain control in people with diabetic neuropathy results in severe sleep deprivation, anxiety, and depression and also results in reduced work productivity and can lead to unemployment or early retirement.[7]

PSYCHOLOGICAL AND BEHAVIOURAL CHANGES

Depression and anxiety frequently coexist, with 26%–31% of individuals experiencing both conditions alongside painful diabetic neuropathy (PDN).[8] Additionally, the prevalence of sleep disorders in this context ranges between 42% and 44%. Optimal sleep quality plays a crucial role in the effective management of painful diabetic neuropathy. [9]A comparison of the analgesic efficacy of pregabalin, amitriptyline, and duloxetine in patients with painful diabetic neuropathy revealed no significant differences in pain relief among the treatments. However, there was a notable impact on sleep measures, with pregabalin improving sleep continuity, while duloxetine was linked to increased wakefulness and reduced total sleep time. These findings suggest that comorbid sleep disturbance in individuals with PDN may partly predict significant pain relief with pregabalin treatment. [10]Indeed, postural instability and falls are often overlooked as complications of diabetes, despite their significant impact on both physical and psychological well-being. Regular monitoring and awareness can help address these concerns. People with DN are at a greater risk of developing a psychiatric disorder compared to those without DN[11].A Cox proportional hazards model was employed to assess the incidence rates of mental disorders in individuals with DN compared to diabetes duration-matched counterparts. Diagnosed DN was

associated with a heightened risk of developing any mental disorder (age- and sex-adjusted hazard rate ratio 1.40 and all specific mental disorders (unipolar depression, anxiety disorder, bipolar disorder, psychotic disorder) in comparison to diabetes duration–matched control subjects.[12]

ROLE OF DIABETIC FOOT ULCER IN IMPAIRMENT OF QOL

Diabetic Foot Ulcers negatively impact individuals' health status and quality of life, stemming from restrictions in physical functioning and daily activities, consequently influencing significant social and family roles. The quality of life for individuals with DFUs is inferior compared to those who either healed primarily without amputation or underwent minor amputation. In a recent meta-analysis exploring the quality of life (QoL) of individuals with DFUs, researchers concluded that QoL is reduced on four of eight SF-36 subscales: physical functioning, role physical, general health, and vitality. [13]

Non-weight-bearing DFU treatments causing impaired mobility pose a significant challenge, particularly for individuals with preexisting postural instability due to DN [14]. This leads to suboptimal use of off-loading devices, resulting in delayed DFU healing. Hence, when choosing an off-loading device, it is crucial to inquire about DN symptoms, as self-reported balance issues seem to align with objective tests of postural instability[15]. A recent study suggests that postural instability and abnormal gait significantly contribute to dissatisfaction with the external appearance of footwear, along with feelings of stigma and embarrassment associated with wearing foot off-loading devices in public. [16]Several psychological factors play a crucial role in DFUs. The diagnosis of a DFU can evoke a spectrum of emotions, with fear of amputation being a predominant one. Patient beliefs regarding DFU risk can, in turn, influence preventive foot self-care. Additionally, depression is a notable mental health issue in people with DFUs and appears to be associated with negative health outcomes. In a study of elderly individuals with DFUs, geriatric depression was found to be predictive of DFU nonhealing.[17] Some studies also suggest that there is no association between diabetic foot ulcers and depression disorders so this suggests a need for further investigation. The introduction of smart technologies, enabling real-time monitoring of plantar foot temperatures and pressures with feedback, also significantly transforms foot care education. By visualizing personal DFU risk, digital technologies are likely to increase individuals' active participation in foot self-care. Recent findings by Chatwin et al. demonstrate that continuous plantar pressure feedback modifies patients' behavior, leading them to preemptively off-load high-pressure areas, thereby reducing the risk of re-ulceration.[18]

PSYCHOSOCIAL SUPPORT FOR PATIENTS WITH DIABETIC NEUROPATHY

Various psychological interventions are crafted to aid individuals in managing chronic pain.[19] The ADA recommends offering psychosocial care to individuals with diabetes to enhance health-related quality of life and overall health outcomes. This care should be seamlessly integrated into routine medical services and administered by trained healthcare professionals using a collaborative, person-centered, culturally informed approach.[20] Additionally, qualified mental health professionals are encouraged to provide targeted mental health care when indicated and available. Numerous psychological interventions, including cognitive-behavioral therapy (CBT), mindfulness-based stress reduction (MBSR), and biofeedback, have been created to support individuals in managing chronic pain. These approaches focus on addressing both the physical and emotional dimensions of pain to enhance overall well-being.[21]In a systematic review, Williams et al. found that individuals undergoing Cognitive-Behavioral Therapy (CBT) reported notably lower pain levels, reduced distress, and decreased disability post-treatment, as well as at the 6- to 12-month follow-up, compared to control subjects. While the effect sizes were relatively small, the results also indicated that, when compared to non-psychological interventions like exercise programs or pain management education, CBT demonstrated a decrease in pain, disability, and distress.[22] Ideally, the diabetes care team should incorporate a mental health professional, such as a psychiatrist, psychologist, or social worker. Their role is to provide guidance to the team and consult with individuals with diabetes requiring psychosocial support.[23]

An empathic approach is crucial in patient care and communication with their family members. The objective is to understand and appreciate the patients' feelings, explore their symptom experiences, and offer assurance that treatments are available to alleviate their symptoms.[24] Patients often feel profoundly misunderstood when their intensely painful feet don't show visible abnormalities, leading to a belief that others, including family members, may not fully grasp their situation. The entire healthcare team must convey a unified message, avoiding conflicting information, as it can be counterproductive. The comprehensive management of patients with Diabetic Neuropathy involves addressing symptoms like neuropathic pain, mood disorders, insomnia, autonomic symptoms, and instability/falls, in addition to evidence-based strategies for preventing foot complications.[25] The biopsychosocial model of pain underscores the importance of biological, social, and environmental factors in managing chronic pain, emphasizing a holistic approach. A multimodal/multidisciplinary team, including psychologists, specialist nurses, podiatrists, physical therapists, orthopedists, and pain specialists, is recommended for personalized and enhanced patient care.[26]

DISCUSSION

Diabetic Neuropathy has significant implications for both physical and emotional well-being. Understanding patient perceptions and emotions related to DFUs is crucial for promoting preventive foot self-care. While depression is linked to an increased risk of DFUs, the specific pathways connecting it to incident DFUs remain to be fully understood. An illness-specific approach and DFU-specific scales are recommended for a comprehensive understanding of the psychology of DFU development and healing.[27]

CONCLUSION

Diabetic neuropathy (DN) is prevalent and adversely affects psychological well-being and quality of life (QoL). Despite limited psychological research on DN, it's evident that factors like depression are linked to unfavorable future health outcomes. The beliefs of individuals with DN regarding prescribed therapies are not well-explored, and it remains uncertain if effectively addressing emotional issues such as comorbid depression improves health outcomes in DN. Further research is needed to better understand and address the psychological aspects of DN and their impact on overall health**.**

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