

ABSTRACT

Neuropathic pain (NeP) is caused due to problems in the nervous system. It is characterized clinically by spontaneous and triggered pain, supported by various pathophysiological processes in the peripheral and central nervous systems. The nerve injury causes molecular alterations in nociceptive neurons, causing an individual to become abnormally sensitive and produce spontaneous pathological activity in specific individuals. Therefore, it significantly impacts the quality of life, especially since it is often refractory to treatment. The purpose of this review is to study the numerous diseases that afflict women and are known to induce neuropathic pain. Most studies report a higher prevalence of NeP and higher pain intensity among female individuals comparably. Based on the information obtained from the literature, the diseases that induce neuropathic pain in women are diabetics, breast cancer, fibromyalgia, and vulvar pain. Therefore, it is concluded that some of the metabolic disorders cause neuropathic pain in women. So the early of the mentioned diseases in the woman can be prevented from neuropathic pain by early detection and treatment. Therefore, this review has given particular attention to comparatively providing the information on the association of various diseases with neuropathy and discussed intervention strategies to manage NeP.

BACKGROUND

- Neuropathic pain is caused by a lesion or disease of the somatosensory system, including peripheral fibres (A β , A δ and C fibres) and central neurons, and affects 7–10% of the general population.
- Multiple causes of neuropathic pain have been described and its incidence is likely to increase owing to the ageing global population, increased incidence of diabetes mellitus and improved survival from cancer after chemotherapy.
- The burden of chronic neuropathic pain seems to be related to the complexity of neuropathic symptoms, poor outcomes and difficult treatment decisions.
- Importantly, quality of life is impaired in patients with neuropathic pain owing to increased drug prescriptions and visits to health care providers, as well as the morbidity from the pain itself and the inciting disease.
- Despite challenges, progress in the understanding of the pathophysiology of neuropathic pain is spurring the development of new diagnostic procedures and personalized interventions, which emphasize the need for a multidisciplinary approach to the management of neuropathic pain.

OBJECTIVES

- To study the numerous diseases that afflict women and are known to induce neuropathic pain. Most studies report a higher prevalence of NeP and higher pain intensity among female individuals comparably.
- To represents the current descriptions of the presentation, causes, diagnosis and treatment of neuropathic pain, with associated in woman given that our knowledge is greater than that of central neuropathic pain.

METHODS

- The literatures were collected from the four databases until 15th Dec 2021.
- This review was followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.
- All records were screened on the basis of their title and abstract by authors and also conflict was resolved.

DISEASE ASSOCIATED WITH NP WOMAN

Most studies report a higher prevalence of neuropathic pain and higher pain intensity amongst female individuals comparably. Based on the information obtained from the literature, the disease that induces NeP in women are diabetics, breast cancer, fibromyalgia, and vulvar pain.

Breast cancer:

- Up to 68 percent of women with breast cancer suffer chronic pain that lasts longer than three months after surgery.
- This discomfort, which is less prevalent than phantom breast pain, is generated by the intercostobrachial nerve in the armpit or swelling on wounded nerves.
- Chronic pain is most commonly caused by surgical complications and radiation therapy, but it can also be caused by demographic variables and psychological stress.
- Pre-surgical psychological discomfort appears to increase the likelihood of pain from 30 days to 4 years after breast surgery, according to research.
- To facilitate evidence-based treatment, Nep is classified into peripheral and central neuropathic pain based on the site of the initial lesion.
- Increased reactivity of nociceptive neurons in the CNS to normal or subthreshold afferent input is described in cancer survivors.

Diabetic polyneuropathy:

- It is a recurrent diabetic condition that can occur with or without neuropathic pain.
- We were interested to know how Nep affects diabetes patients' quality of life and what role comorbidities play in this situation.
- In type II diabetes, roughly 50% of patients have this disease, compared to approximately 30% in type I diabetes. Painful diabetic polyneuropathy affects 11-21% of diabetic patients, with pain being one of the most prevalent reasons for seeking medical help.
- Sleep problems, sleep disruptions, burning sensations, and itching are all common symptoms of neuropathic pain.
- Females have a higher frequency of pain (68%) than males (53%), as well as a higher frequency of additional neuropathic symptoms (68%) than males.
- Tingling, burning, sharp, shooting, and lancinating feelings, as well as electric shock sensations, are all symptoms of diabetic neuropathic pain (DNP).

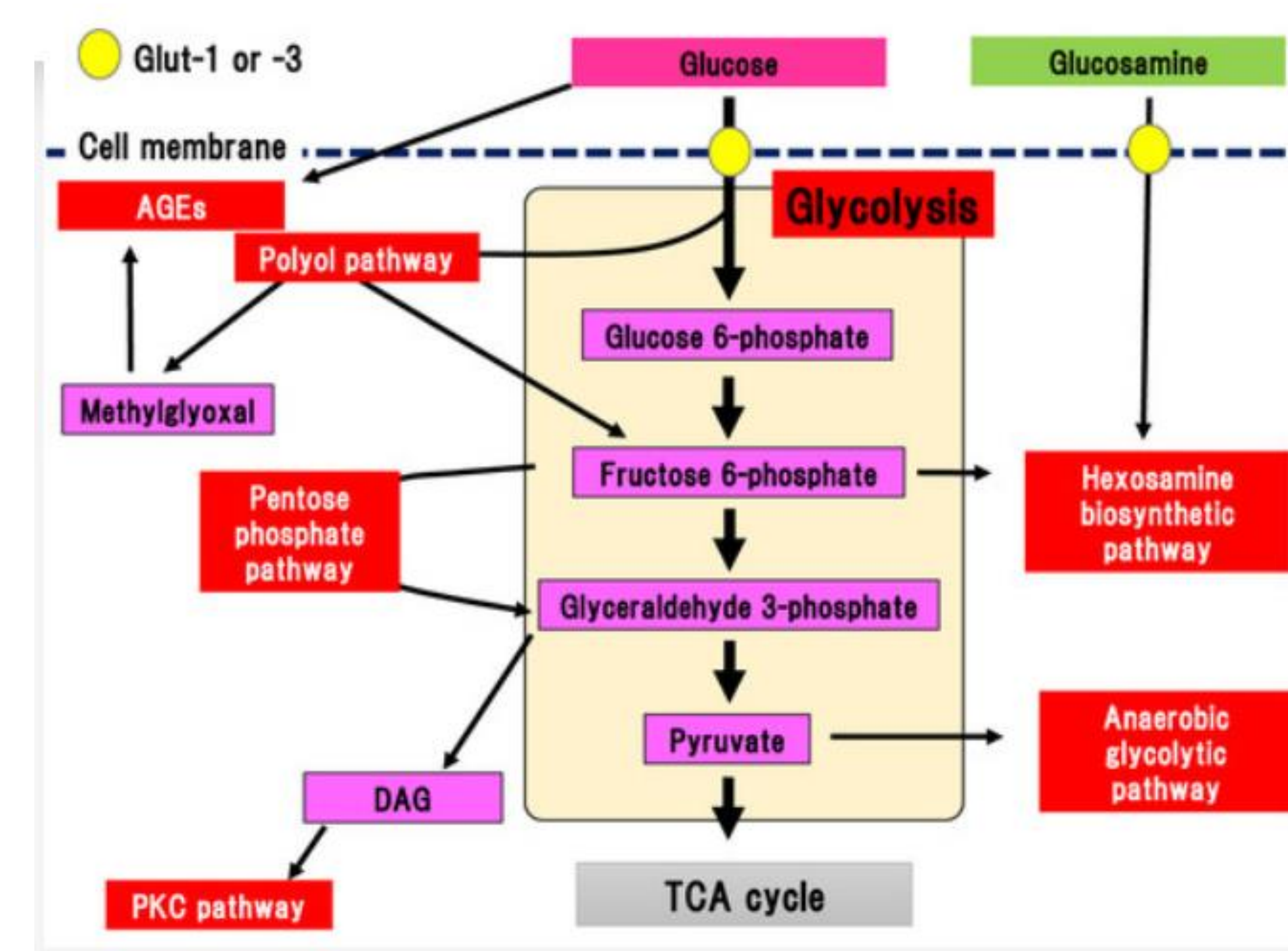


Figure 1. Glucose utilizing pathway in diabetic polyneuropathy

Vulvar pain:

- Vulvar pain is a kind of pain hypersensitivity or soreness that is characterized by spontaneous pain and/or mechanical allodynia and is associated with the other three types of pain: inflammatory, dysfunctional pain, and neuropathic.
- Insufficient activation of the nociceptive system's peripheral nociceptors causes pathological neuropathic pain, which is non-protective, maladaptive, and low-threshold pain.
- A nervous system problem is a pathological pain, which can be caused by structural damage (neuropathic pain) or aberrant function (dysfunctional pain).
- Pathological pain is maladaptive in that it neither protects physical integrity, as nociceptive pain does nor aids in the repair of the damaged body part, as inflammatory pain does.

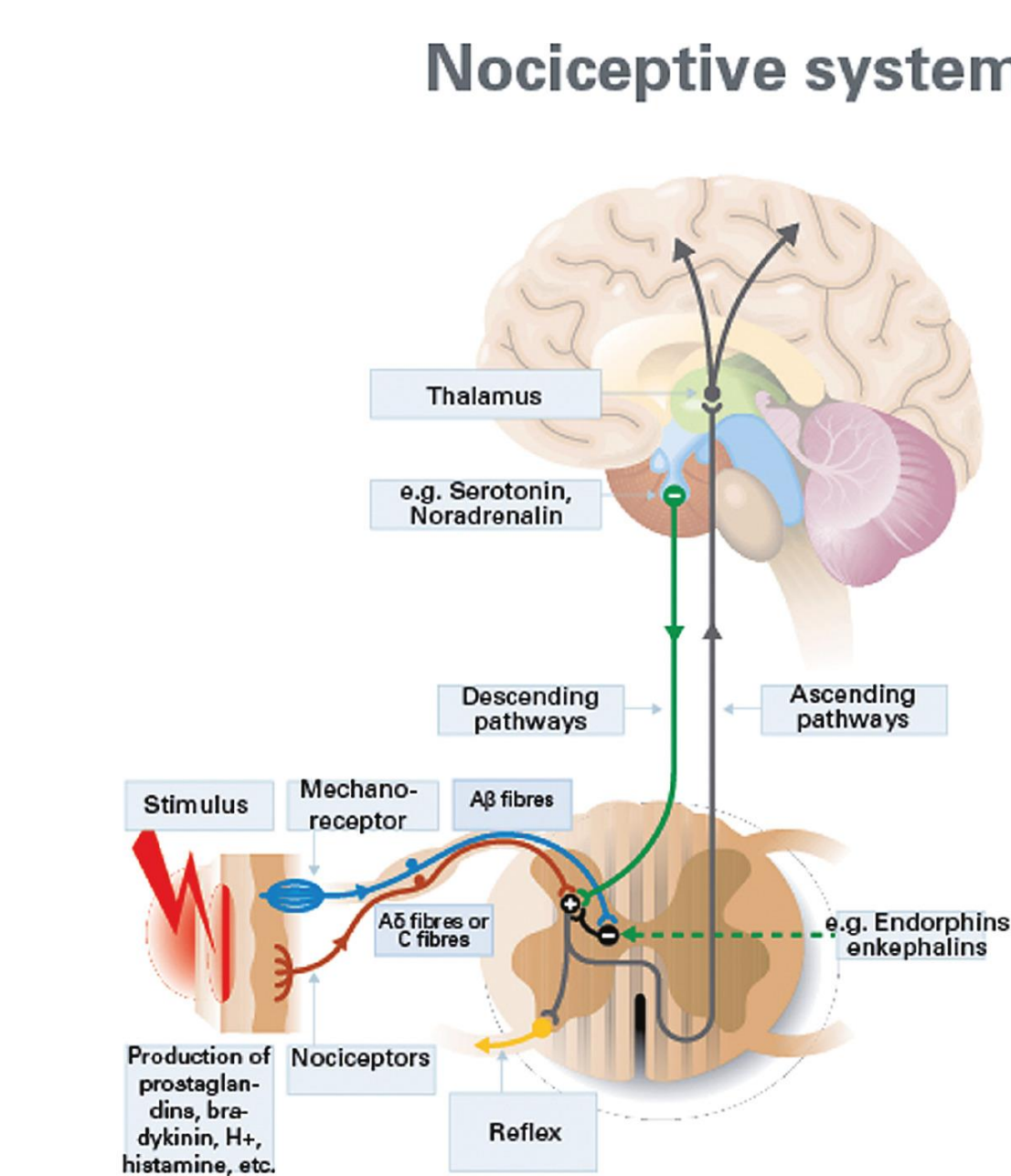


Figure 2. Pathogenesis and pain mechanism

Fibromyalgia:

- Women comprise the majority of fibromyalgia patients seeking medical attention. The preponderance of fibromyalgia patients meets the diagnostic criteria for somatic symptom disorder.
- In stress-evoked neuropathic pain, many studies in mice and humans show a significant female predominance.

CONCLUSIONS

- Transcutaneous electrical nerve stimulation (TENS) may be superior to placebo and is suitable as preliminary or add-on therapy for neuropathic pain management.
- It is suggested the importance of a multidisciplinary approach for neuropathic pain treatment, including both interventional and non-interventional therapies (pharmacological, psychological, and physical therapy), highlighting the crucial role exerted by the latter in the overall management of this complex condition.

ACKNOWLEDGEMENT

The authors thank Chettinad Academy of Research and Education for constant support and encouragement.

REFERENCE

Kiesel L. Women and pain: Disparities in experience and treatment. Harvard Health Blog. 2017 Oct;7.