

Response to “A study on the prevalence of diabetic peripheral neuropathy in diabetic patients attending a rural health and training center”—A letter to the editor

To the Editor,

We have immensely enjoyed reading the original study, “A study on the prevalence of diabetic peripheral neuropathy in diabetic patients attending a rural health and training center,” in your previous issue.^[1] This study has meticulously assessed the presence of peripheral neuropathy in chronic diabetic patients, which goes unnoticed by patients due to sensory neuropathy. The tool used for conducting the study was the Michigan neuropathy screening instrument. The study shows a significant correlation between diabetic neuropathy and the factors that were taken into account: duration of 6–10 years ($P = .083$), >10 years ($P = .0001$), presence of smoking history ($P = .008$), presence of alcohol consumption ($P = .027$), patients suffering from overweight ($P = .003$), and obesity ($P = .004$).^[1] The study points out the need for early detection and management of diabetic peripheral neuropathy to prevent further complications, such as foot ulcers and amputations. The findings emphasize the importance of regular screening and lifestyle modifications in diabetic patients to reduce the risk of developing neuropathy.

In the study, under the Materials and Methods section, the author has not taken muscle cramps and weakness into account, which could have serious implications as well as innovative findings if included in the study. Muscle cramps and weakness are seen in patients with type 2 diabetes.^[2] The study fails to mention the reason behind this exclusion in the study.

The results show that the correlations between peripheral neuropathy and factors, such as smokers, alcohol consumers, overweight, and obesity, are significant. What concerns me is the modality of treatment, showing that patients on insulin or insulin combined with oral hypoglycemic agents are associated with peripheral neuropathy.^[1] It is interesting to point out that insulin does not cause peripheral neuropathy,^[3] which makes

insulin a confounding factor in the study. Patients on insulin are those who have failed to control their blood glucose with oral hypoglycemic agents (OHA). These patients need insulin, with or without OHA, to keep their blood sugar in check. The author fails to explain the addition of the mentioned factor to the study. The most common reason why OHA does not work is that type 2 DM is a chronic disease that leads to insulin resistance and pancreatic amyloidosis, ultimately killing beta cells and lowering insulin output.^[4] Insulin is notable for its ability to reverse diabetic neuropathy.^[5] It is interesting to see the odds ratio showing 2.59, which means insulin worsens diabetes, which makes insulin a confounding factor in the study illustration.

Diabetic neuropathy can present differently among patients. It ranges from burning, tingling, numbness, or shooting pain in the affected areas that starts distally (at the toes) and spreads proximally and then to the upper limb digits when the lower-limb symptoms reach the knees.^[6] Small fibers get involved first, causing lancinating, burning, and freezing pain that is worse at rest. Larger nerve fibers get involved in the later stages of the disease. Some people may experience heightened sensitivity to touch (hyperesthesia) or experience pain from stimuli that would not normally cause pain (allodynia). The type of pain and intensity should also have been recorded in this study. The author could have used scales like LANSS, sLANSS, DN4, and painDETECT for homogeneity in assessing the pain of the patient since pain is a subjective factor felt differently based on the patient's characteristics. It is imperative to point out the type of symptom each of the 206 patients has experienced.

In my opinion, there are insufficient data on the detailed lifestyle of the patient. There should be data on the typical diet of the patients, which includes meal times, portion sizes, and frequency of snacking. Enquire about the consumption of carbohydrates, fats, proteins, fruits, vegetables, and processed foods. Frequency of the exercise, type of exercise, inquiry into the barriers to physical activity, time constraints, and lack of motivation are observed. Although smoking and alcohol were mentioned in the study, the quantity, frequency, type of cigarette, and whether it was a cigar or electronic cigarette were all important because this study has a correlation with the control of blood sugar. The evaluation of patient's stress and mental health and the coping mechanisms must be included. A history of the patient's sleep hygiene, medication adherence, and family history should have been covered.

In the discussion, the author claims that the prevalence of their results varies with similar studies due to local factors, the study population included, differences in the prevalence of diabetes, and the duration of diabetic disease. However, the author fails to explain what “local factor” means. Also, factors like diet,

autoimmune diseases, triglyceride levels, blood pressure levels, and genetics are not taken into account.

The study should have conducted a regression analysis to determine the relationship between factors and diabetic peripheral neuropathy, in addition to highlighting its strengths and limitations. Regression analysis would have been extremely helpful in drawing conclusions about the significance of the relationships between the variables and the validity of the model assumptions.

The findings of this study contribute to our understanding of the need for improved health and training centers in rural areas to screen for and help with disability limitations through early diagnosis and treatment. I believe that this research will stimulate further investigations and discussions within the public health and diabetes communities.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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Received: 17-03-2024

Revised: 15-05-2024

Accepted: 15-05-2024

Published: 26-07-2024

Access this article online

Quick Response Code:



Website:

<http://journals.lww.com/JFMPC>

DOI:

10.4103/jfmpc.jfmpc_445_24

How to cite this article: Haward R, Sanvi K. Response to "A study on the prevalence of diabetic peripheral neuropathy in diabetic patients attending a rural health and training center"—A letter to the editor. *J Family Med Prim Care* 2024;13:3486-7.

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