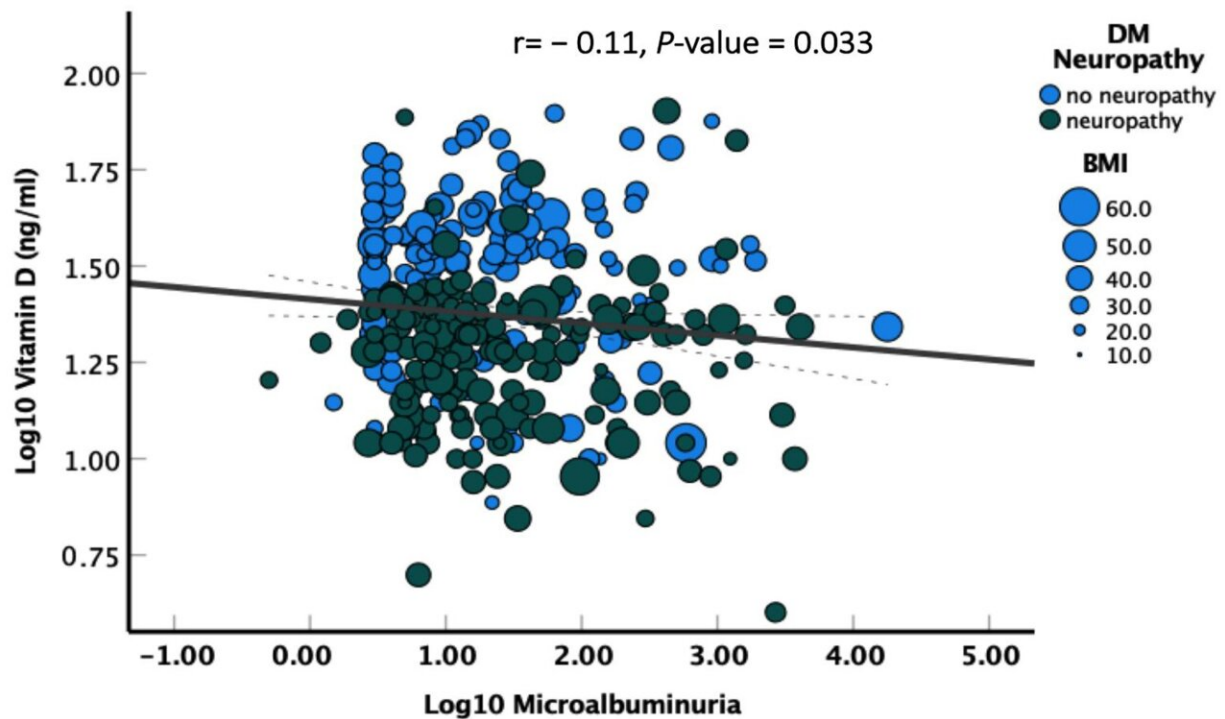


Study highlights lack of vitamin D as cause of nerve damage in diabetes patients

June 14 2023, by Ifath Arwah



Correlation of log-transformed vitamin D and albuminuria values. Blue filled color circles represent DM with neuropathy, while green filled circles present DM without neuropathy. The size of the circles represent BMI values, with increasing values corresponding to larger circle size. Correlation was tested using Pearson's test with significance indicated by p-values less than 0.05. Credit: *Cells* (2023). DOI: 10.3390/cells12010198

People with diabetes run the risk of nerve damage if they at the same

time suffer from vitamin D deficiency, research suggests.

Called [neuropathy](#), the nerve problem which gets worse over time, afflicts 50% of patients in the United Arab Emirates, according to the research's lead author Dr. Bashair M. Mussa, Associate Professor at the University of Sharjah's College of Medicine.

Science illustrates that "about 30% to 50%" of patients with type 2 diabetes experience neuropathy at a point in their life, Dr. Mussa states.

However, Dr. Mussa's study, published in the *Cells*, finds that neuropathy is at the highest documented rate among UAE's diabetes patients.

The research involved 600 Emirati patients from University Hospital Sharjah in the United Arab Emirates. The cross-sectional study examined data in retrospective, using patient medical records at the UAE's University Hospital Sharjah. Data showed that 50% of the respondents suffer from neuropathy, particularly pain and muscle weakness of different body parts, which aggravates gradually.

Scientists have examined how and why diabetes patients develop neuropathy, but Dr. Mussa's research stands out in attributing the nerve disease to Vitamin D deficiency.

"It is well documented that about 30% to 50% of the patients with diabetes develop neuropathy during their lifetime," she adds. Diabetic neuropathy, she notes, is "associated with high rates of morbidity and mortality in addition to economic burden."

The high rate reported in Dr. Mussa's study is worrying given the fact that the International Diabetes Federation (IDF) reports type 2 diabetes prevalence in the country to be at 16.3% compared to 9.3% worldwide.

Diabetes prevalence among UAE population is forecast to skyrocket to 21.4% by 2030, Dr. Mussa says.

The research shows that diabetes patients without neuropathy enjoy better Vitamin D status compared to those having muscle nerve issues. The statistics in the data reveal Vitamin D deficiency in neuropathy-afflicted patients to be at least double that of neuropathy-free patients.

These findings are interesting because normally a sunny country like the UAE is not supposed to have such a high rate of Vitamin D deficiency. However, the scorching sun present almost every day of the year makes people avert sunlight during the day, the study notes.

Dr. Mussa says patients with neuropathy in her study "had a long-standing diagnosis of [diabetes](#)" of over 10 years. "They were overweight or obese and were deficient in vitamin D compared to patients without neuropathy.

"This highlights the necessity of designing large-scale studies that involve multiple centers in the UAE to further understand the [risk factors](#) and predictors that are associated with diabetic neuropathy," notes Dr. Mussa.

Scientific literature has documented improvements in [diabetic neuropathy](#) even if patients are given vitamin D supplements for only a short time.

More information: Tahra Al Ali et al, Investigating the Association between Diabetic Neuropathy and Vitamin D in Emirati Patients with Type 2 Diabetes Mellitus, *Cells* (2023). [DOI: 10.3390/cells12010198](https://doi.org/10.3390/cells12010198)

Provided by Sharjah's College of Medicine

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