

# Patient attitudes to diabetic foot ulcers have 'significant effect' on survival

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New research by health psychologists has shown that the beliefs and expectations of people with diabetic foot ulcers about their illness have a significant independent effect on their survival.

The study was led by researchers at The University of Nottingham. It set out to expand on an area of previous research which, in some studies, linked depression to poorer clinical outcomes for diabetic ulcer patients.

The work was carried out over five years during which 169 patients were interviewed about their diabetic [foot ulcers](#). The findings of the study, published in the scientific and medical journal *PLOS ONE*, could improve understanding of mortality risk and could also inform future therapeutic treatment to improve survival.

People with type 1 and type 2 diabetes are susceptible to leg and foot

ulcers because of nerve damage and the narrowing of arteries to the feet and lower leg. Small injuries to the foot can fail to heal and turn into ulcers which can become infected and hard to treat, sometimes leading to amputation and even death.

Professor Kavita Vedhara from The University of Nottingham's School of Medicine, said: "We wanted to test the hypothesis that life expectancy in people with diabetic foot ulcers is shorter in patients with negative [beliefs](#) regarding their symptoms and attitudes to caring for their feet."

Data such as diabetes type, glucose control, number of previous ulcers, size and location of ulcer and infection levels were collected at baseline, and the patients completed a survey of their illness beliefs and depression levels. All the patients were given the same foot care advice and treatment for their foot ulcers. Further data about survival and mortality were collected on the patients in 2011, between 4 and 9 years after they had been recruited into the study.

Professor Vedhara said: "We found that of the 160 patients for whom data on mortality were available, 104 were alive and 56 had died. The patients had an average age of 61 and most had type 2 diabetes. Most patients had had a previous ulcer and in one third of the cohort the index ulcer was infected at the start of the study. The psychological data revealed on average low levels of depression.

"Our analysis examined whether patients' beliefs about their ulcer predicted survival, after taking into account the effects of depression and other clinical factors that might be expected to influence [mortality](#). We found that, although depression was not a significant predictor, patients who believed their ulcers were associated with greater symptoms died more quickly. These [patients](#) also believed that their ulcers would have more serious consequences for them, believed they would last a long time, found them distressing and believed they had little control over

them. This constellation of beliefs appears to have been common in people who died more quickly in this study."

Although this study is limited by the modest number of participants and the observational design, the findings suggest that negative beliefs about one's illness, alongside other clinical factors, may influence survival in people with [diabetic foot ulcers](#).

'Illness Beliefs Predict Mortality in Patients with Diabetic Foot Ulcers' is now available in *PLOS ONE*.

**More information:** Kavita Vedhara et al, Illness Beliefs Predict Mortality in Patients with Diabetic Foot Ulcers, *PLOS ONE* (2016). [DOI: 10.1371/journal.pone.0153315](https://doi.org/10.1371/journal.pone.0153315)

Provided by University of Nottingham

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