

Dry eye disease and diabetes: New study reveals scale of issue and need for screening

March 1 2019, by Suzanne Hagan



Credit: Vlad Vasnetsov from Pexels

[Diabetes](#) is a debilitating health condition which is expected to reach epidemic proportions in the next 20 years. [According](#) to the World Health Organisation, 108m people around the world had diabetes in

1980; by 2014 that figure was 422m. Three years later in 2017, 425m people worldwide were living with the disease and this figure is expected to exceed a staggering [629m by 2045](#).

There are two types of diabetes: people with [type 1](#) are unable to produce the hormone insulin (from the [pancreas](#)) which is involved in controlling [blood sugar levels](#). People with [type 2 diabetes](#) do not produce enough insulin or their bodies are resistant to it. As a result, both types can lead to high blood sugar levels, which increase the risk of diabetes complications.

One is [retinal disease \(retinopathy\)](#), a leading cause of blindness in people of working age in developed countries. If blood sugar levels are constantly high in a person, this can damage their blood vessels. That means blood flow can be impeded or blocked and when that happens in the blood vessels serving the eye, the [retina](#) cannot work properly, leading to [vision problems](#).

But [our latest research](#) reveals that [dry eye disease](#), another eye condition that receives much less attention, should cause concern for all people with diabetes – especially those with type 2 – when it comes to worsening sight.

The scourge of DED

People with diabetes are [more likely](#) to suffer from DED. But this condition is often overlooked during diabetic ophthalmic assessments which concentrate on retinal disease screening.

DED affects approximately [15% to 30% of those aged over 50](#). Although "dry eye" sounds like a relatively innocuous condition, symptoms can be very distressing, [including](#) blurred vision, pain, burning, itchiness, grittiness, dryness, [corneal ulcers](#), and in severe cases,

blindness. And because good vision is so intrinsically related to our daily lives, DED can affect people's ability to drive, read, watch TV and use smartphones and computers.



Credit: Vlad Vasnetsov from Pexels

This can have repercussions on the overall quality of life, with DED [damaging](#) emotional well-being, workplace productivity and other day-to-day activities. DED is known to have a similar [negative effect](#) on quality of life [as much](#) as that for people living with angina, hip fractures or those undergoing kidney dialysis.

Despite this, DED is not routinely assessed in those with diabetes because retinal disease monitoring is considered a more pressing concern, and so dry eye often goes untreated. To compound the problem, there has been little research investigating the effects of diabetes-associated DED on the quality of life of patients. There has also been little comparison of DED in type 1 and 2 diabetes, which have very different causes.

What we discovered

We [studied](#) people with diabetes versus those without it, to find out how many people had DED symptoms and to grade how severe they were. While there have been [studies](#) conducted on how widespread DED is in diabetes, our study is the first to assess the impact of DED on vision-related quality of life in these patients.

Our study demonstrated that DED is twice as common in type 2 diabetes (the type that makes up [90%](#) of all diabetes cases) than it is in type 1. Using questionnaires that asked patients if they had symptoms of dry eye, we discovered that 55% of people with type 2 diabetes had DED, compared with 27% of those with type 1 and 29% of people who did not have diabetes.

We also found DED severely reduces quality of life in those with both DED and diabetes, and was significantly worse in those with both types of diabetes than for those without it. This raises major concerns, not only about the underdiagnosis of DED in diabetes, but also on the overall well-being of those with the condition.

These findings show, for the first time, that diabetes considerably compromises patients' quality of life and that DED is a significant clinical [eye condition](#) for people with diabetes (particularly in type 2). And as DED is more dominant in type 2 [diabetes](#), adding a clinical DED

assessment to retinal screening could be beneficial for people with this condition.

In the long term, the additional screening cost could [outweigh](#) the loss of productivity and produce economic benefits in the form of improved overall well-being and eye health. A [recent study](#) showed a strong link between depression and dry eye symptoms. Relieving DED could improve the quality of life of type 2 patients – and with wider social, physical and psychological benefits, it should be a [priority](#) for eyecare professionals and patients alike.

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