

Severe gum disease may be early sign of undiagnosed diabetes

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Severe gum disease, known as periodontitis, may be an early sign of type 2 diabetes, reveals research published in the online journal *BMJ Open Diabetes Research & Care*.

Screening patients visiting their dentist for the treatment of severe [gum disease](#), to try and stave off the complications associated with longstanding diabetes, would be feasible and worthwhile, suggest the researchers.

They base their findings on 313 predominantly middle-aged people attending a university dental clinic: 109 had no gum disease; 126 had mild to moderate gum disease; and in 78 it was severe, affecting the supporting structures of the teeth.

Weight was significantly higher in those with severe gum disease: they had an average BMI of 27 or higher. But other risk factors for diabetes, including high blood pressure, and high cholesterol levels, were similar among all three groups.

And people with mild to moderate gum disease also had more relatives with diabetes than those with no or severe gum disease.

Just under 3% of those with no gum disease had already been diagnosed with type 2 diabetes; this was also the case for 4% of those with mild to moderate gum disease, and for nearly 8% of those with the severe form.

HbA1C values, which measure the average level of blood sugar in the body over the past 2-3 months, were obtained by analysing dried blood spots, which had been sampled from each of the study participants, using a finger pin-prick test.

An HbA1C value of 39-47 mmol/l is considered to indicate 'pre-diabetes,' while values above that indicate diabetes.

The analysis of the dried blood spots showed that HbA1C values were highest in those with the most severe form of gum disease.

Their average HbA1C value was 45 mmol/l (6.3%), compared with 43 mmol/l (6.1%) in those with mild to moderate gum disease and 39 mmol/l (5.7%) in those with no gum disease. People with suspected diabetes (23% and 14%, respectively) and pre-diabetes (47% and 46%, respectively) were significantly over represented among those with severe and mild to moderate gum disease.

Among those with no gum disease, 37% had pre-diabetes, while 10% had suspected diabetes —figures that are relatively high, but which might be explained by the lower threshold of 6.5% rather than 7%, which is commonly used for a diagnosis of type 2 diabetes.

Previously undiagnosed cases of diabetes were found in all three groups: 8.5% of those with no gum disease; just under 10% of those with mild to moderate gum disease; and nearly one in five (18%) of those with the severe form.

This is an observational study so no firm conclusions can be drawn about cause and effect, but the researchers nevertheless say: "This confirms the assumption that severe periodontitis could be an early sign of [undiagnosed diabetes](#)."

They suggest that it would be feasible to screen for undiagnosed diabetes in dental practices, focusing on people with the most severe form of gum disease.

Picking up diabetes and pre-diabetes early is essential if its associated complications are to be avoided, they add. "The early diagnosis and intervention of (pre) diabetes prevent the common micro vascular and macro vascular complications and are cost effective," they write.

Furthermore, early diagnosis and treatment of [diabetes](#) might also help to stave off the risk of tooth loss that is associated with longstanding and

untreated severe gum disease, they add.

More information: Periodontitis as a possible early sign of diabetes mellitus, [DOI: 10.1136/bmjdr-2016-000326](https://doi.org/10.1136/bmjdr-2016-000326)

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