

## YDF Travel award winner: Sam Mostafa's study on HbA1c for diagnosis

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Sam Mostafa won the prestigious Young Diabetologist travel award at Diabetes UK (£1500) for his study that showed the use of HbA1c for diagnosing diabetes will lead to a doubling of T2DM incidence in multi-ethnic populations. Young Diabetologist Travel Award is funded by the YDF and showcases the best of trainee led diabetes research in the UK.

**Abstract:**The potential impact of using glycated haemoglobin, HbA1c, as the preferred diagnostic tool for Type 2 Diabetes Mellitus (T2DM) compared to an Oral Glucose Tolerance Test (OGTT) in a UK multi-ethnic population

**Introduction**  
To simplify the diagnosis of T2DM, HbA1c is being considered as a diagnostic tool and may replace the requirement for an OGTT. The aim of this study was to examine the potential impact of the preferred use of HbA1c as a diagnostic tool on the prevalence and phenotype of T2DM.

### Methodology

Analysis of the LEADER study cohort: a combination of two systematic T2DM screening programmes of undiagnosed individuals, over 40years, who underwent an OGTT between 2002-9. We compared the prevalence and phenotype of participants with T2DM based on either HbA1c $\geq$ 6.5% or OGTT using 1999 WHO criteria. Results

From the total population of 9548, the OGTT identified 344(3.6%) people with T2DM; 103(1.1%) of these had an HbA1c $<$ 6.5% and would not have been classified as having T2DM using the new criteria. Using HbA1c $\geq$ 6.5%, 591(6.2%) individuals were detected with T2DM. Use of the HbA1c criteria resulted in 352(3.7%, CI 3.3-4.1) additional cases of T2DM, approximately doubling the prevalence. Of these 352 additional patients, 208(59.3%) had IGT/IFG according to 1999 WHO Criteria and there were proportionally more South Asians detected in comparison to White Europeans (2.1 vs. 1.4 fold increase respectively,  $p=0.001$ ).

People with HbA1c $\geq$ 6.5% and non-diabetic OGTT had significantly lower risk factors compared to those with T2DM using OGTT: lower mean waist circumference( $p=0.013$ ), waist:hip ratio( $p=0.003$ ), systolic and diastolic blood pressures( $p<0.0001$ ), triglyceride levels( $p<0.0001$ ) and microalbuminuria ( $p=0.045$ ). Conclusions

In the UK, introducing HbA1c $\geq$ 6.5% as the preferred diagnostic test to diagnose T2DM would approximately double the number detected with T2DM, especially people of south Asian origin.