

OP 3: Cardiovascular Risk Assessment in type 2 Diabetes Mellitus: Comparison of UKPDS risk engine Versus the WOH/ International Society of Hypertension (WHO/ISH) Risk Prediction tool

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Introduction and Objectives: Recent guideline issued by Ministry of Health, Sri Lanka suggests using total cardiac risk approach, in comparison to treatment decisions being based on the level of a single risk factor. However, the best method for risk prediction in patients with T2DM in Sri Lankan is not well established. Aim of the study was to predict the risk of cardiovascular disease (CVD) and its clinical implications among patients with type 2 diabetes mellitus (T2DM) using two different CVD risk tools: UKPDS risk engine and the WHO/ISH risk prediction chart.

Methods: A total of 424 patients with newly diagnosed T2DM attending a diabetic clinic were retrospectively assessed for cardiac risk using two different assessment tools.

Results: The UKPDS risk engine identified significantly higher proportion of patients compared to WHO/ISH tool at CVD risk of 10% or above (26.4% vs. 4.7%; $p=0.001$). Same trend was observed at CVD risk $\geq 20\%$ with UKPDS risk engine identifying 2.8% compared to just 0.7% with WHO/ISH tool. At CVD risk of $\geq 10\%$ UKPDS risk engine recognised significantly higher proportion of patients with LDL > 130 mg/dL (23%) and diastolic blood pressure (DBP) ≥ 90 mmHg (56.8%) compare to WHO/ISH tool (LDL-8.09%, DBP-6.2%).

Conclusions: There was a significant discrepancy between two assessment tools in predicting cardiac risk. Similar to Caucasians, there is a possibility that UKPDS risk engine overestimate the cardiac risk in Sri Lankan patients with T2DM too. However, WHO/ISH tool's poor ability to recognise higher LDL and DBP may indicate that it might underestimate the real cardiac risk in patients with T2DM.