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**Abstract 69**

**Title:** Age  $\geq$  60 years was an Independent Risk Factor for Diabetes-related Complications in Patients with Type 2 Diabetes Mellitus in Malaysia- A Cross-sectional Study from the Malaysian Diabetes Registry

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**Background.** Population ageing is fast approaching in many countries. Its effect is far-reaching even in the provision of effective medical care for older patients with type 2 diabetes mellitus (T2D) that may contribute to their active ageing. World Health Organization and United Nations generally agreed on age cutoff of 60+ years to refer to the older population and they comprised 7.4% of total Malaysia population in 2010.

**Objective.** We examined the independent effect of age  $\geq$  60 years on disease control and its relationship with diabetes-related complications in patients with T2D in Malaysia.

**Methods.** This was a cross-sectional study using secondary data from the electronic diabetes registry database Adult Diabetes Control and Management (ADCM). A total of 303 centres participated and contributed a total of 70889 patients at the end of 2009. Demographic data, details on diabetes, hypertension, dyslipidaemia and their treatment modalities, various risk factors and complications were updated annually. Independent associated risk factors were identified using multivariate regression analyses.

**Results.** Fifty-nine percent was female. Malay consisted of 61.9%, Chinese 19% and Indian 18%. After adjusted for duration of diabetes, gender, ethnicity, BMI and treatment, patients aged  $\geq$  60 years were related to achieving targets HbA<sub>1c</sub>  $\leq$  6.5%, LDL-C  $\leq$  2.6 mmol/L, HDL-C  $\geq$  1.1 mmol/L and TG  $\leq$  1.7 mmol/L but not BP  $<$  130/80 mmHg. After adjusted for duration of diabetes, gender, ethnicity, BMI, disease control and treatment, those who were  $\geq$  60 years had significant higher proportion suffered from reported diabetes-related complications (18.6%): macrovascular 5.8% (IHD 8.4%, stroke 2.2%), microvascular 14.9% (retinopathy 11.7%, nephropathy 14.9%, foot problem 6.8%). Age  $\geq$  60 years old was a significant independent risk factor for diabetes complications (OR 1.35): macrovascular (OR 1.94): IHD (OR 1.97), stroke (OR 1.79); microvascular (OR 1.22): retinopathy (OR 1.38), nephropathy (OR 1.12), foot problems (OR 1.30).

**Conclusions.** Age  $\geq$  60 years was an independent risk factor for diabetes-related complications despite good control of cardiovascular risk factors. The sequence of onset of complications and disease control, including the effect uncontrolled hypertension, requires future study. Our findings should provide caution on the current recommended clinical targets control in these older T2D patients who were having more longstanding diseases and complications.

**Keywords:** Aged, Type 2 Diabetes Mellitus, Diabetes Complications