

IDF21-0647 Trends in mortality among people with diagnosed type 2 diabetes in Malaysia: 2010-2019

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L.L. Lin, A. Aziz, H. Dakin, J. Buckell, Y.L. Woon, C. Arunah, F.I.

Mustapha, E.W. Gregg, P.M. Clarke

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Background: Studies from high-income countries have shown marked reductions in all-cause mortality among people with type 2 DM (T2DM) since the late 1990s. There is little comparable data for low- and middle-income countries.

Aim: To determine 10-year trends in mortality in people with diagnosed T2DM using a large community-based diabetes registry in Malaysia.

Method: A total of 1.01 million Malaysian adults aged 40–79 with diagnosed T2DM registered in the National Diabetes Registry between 1 January 2009 and 31 December 2018 were linked to the death records, with follow-up until 31 December 2019. Data from East Malaysia were excluded due to incomplete death registration. Standardised absolute mortality rates and sex-specific standardised mortality ratios (SMRs) were estimated relative to the Malaysian general population. The SMRs and mortality rates were standardised to the 2019 registry population with respect to age group and DM duration.

Results: The present sample had a mean age at registration of 58.3 ± 10.4 years (43.0% male). The mean DM duration decreased from 5.6 years in 2009 to 3.2 years in 2019. All-cause mortality rates among men overall with T2DM were unchanged over time but increased 17.9% among those aged 50–59. Among women, there was a significant 5.0% decrease, driven primarily by a 13.3% reduction in women aged 70–79. However, there was a significant increase in mortality rates among men and women with prior CVD ($p < 0.003$). Mortality rates were persistently higher in persons of Bumiputera ethnicity than in those of Chinese and Indian ethnicity. In 2019, the overall SMR for patients with DM compared with the general population was 1.83 (95% CI 1.80, 1.86) for men and 1.85 (95% CI 1.82, 1.89) for women. SMRs were higher among younger age groups and with longer DM duration in both sexes.

Discussion: Unlike high-income countries, there has been little to no improvement in excess mortality for people with T2DM in Malaysia. Excess mortality is increased in people with prior CVD. Challenges in the delivery of quality diabetes care need to be identified with follow-up actions to close the care gaps.

		2012	2015	2017	2019	p-value (2012 vs. 2019)
Overall						
Male		3939.16 (3837.17, 4041.15)	4046.19 (3966.12, 4126.26)	4109.23 (4036.81, 4181.66)	3970.72 (3904.9, 4036.54)	0.617
Female		2720.10 (2649.87, 2790.32)	2767.33 (2711.58, 2823.08)	2818.73 (2767.89, 2869.57)	2584.22 (2539.12, 2629.33)	0.001*
Age group, years						
Male	40- 49	1550.15 (1386.87, 1713.42)	1916.81 (1770.61, 2063.01)	2022.96 (1883.54, 2162.38)	1850.96 (1724.36, 1977.56)	0.006*
	50- 59	2394.23 (2257.13, 2531.34)	2727.56 (2610.95, 2844.16)	2855.94 (2747.23, 2964.64)	2822.40 (2720.25, 2924.55)	<0.001*
	60- 69	4153.83 (3975.56, 4332.11)	4183.18 (4047.8, 4318.56)	4240.70 (4120.23, 4361.17)	4104.53 (3995.42, 4213.64)	0.653
	70- 79	7435.71 (7088, 7783.42)	7177.84 (6924.46, 7431.22)	7124.15 (6902.47, 7345.83)	6843.82 (6652.01, 7035.63)	0.003*
Female	40- 49	920.07 (820.91, 1019.22)	923.85 (840.57, 1007.13)	1063.97(979.43, 1148.51)	1076.50 (994.75, 1158.25)	0.021*
	50- 59	1507.96 (1420.62, 1595.31)	1653.26 (1578.82, 1727.7)	1727.06 (1656.96, 1797.16)	1579.69(1516.04, 1643.34)	0.203
	60- 69	2771.46 (2644.97, 2897.94)	2806.26 (2710.05, 2902.47)	2927.29 (2841.12, 3013.47)	2686.92 (2611.41, 2762.42)	0.263
	70- 79	5812.12 (5551.64, 6072.6)	5753.22 (5560.21, 5946.23)	5572.56 (5403.58, 5741.53)	5040.44 (4897.91, 5182.97)	<0.001*