

## Supplementary Online Content

Sabanayagam C, Chee ML, Banu R, et al. Association of diabetic retinopathy and diabetic kidney disease with all-cause and cardiovascular mortality in a multiethnic Asian population. *JAMA Netw Open*. 2019;2(3):e191540. doi:10.1001/jamanetworkopen.2019.1540

**eTable 1.** Baseline Characteristics of SEED Participants Across the 4 Disease Groups

**eTable 2.** Association of Risk Factors With All-Cause and CVD Mortality (Joint Effect of DR and DKD Model)

This supplementary material has been provided by the authors to give readers additional information about their work.

<b>eTable 1. Baseline characteristics of SEED participants across the 4 disease groups</b>					
<b>Characteristics</b>	<b>No DR and no DKD (n=1633)</b>	<b>DR alone (n=584)</b>	<b>DKD alone (n=327)</b>	<b>Both DR and DKD (n=231)</b>	<b>P</b>
Age (years), mean SD	59.9 (9.9)	59.9 (9.0)	69.0 (8.0)	66.3 (7.8)	<0.001
Gender, female	802 (49.1)	278 (47.6)	150 (45.9)	126 (54.5)	0.206
Primary/below education, %	1038 (63.8)	414 (71.1)	270 (82.8)	195 (84.8)	<0.001
Current smoker, %	256 (15.7)	80 (13.7)	31 (9.6)	17 (7.4)	<0.001
Ever drinking , %	129 (7.9)	64 (11.0)	12 (3.7)	3 (1.3)	<0.001
Duration of diabetes (years)	4.8 (7.1)	11.2 (9.8)	7.3 (8.9)	14.4 (10.3)	<0.001
Anti-diabetic medication use, %	831 (51.8)	450 (79.2)	194 (60.4)	184 (81.4)	<0.001
Hypertension, %	1157 (71.1)	450 (77.2)	295 (90.5)	215 (93.1)	<0.001
History of cardiovascular disease, %	242 (14.9)	105 (18.1)	95 (29.2)	78 (33.9)	<0.001
Body mass index (kg/m <sup>2</sup> )	27.1 (4.8)	26.3 (4.5)	27.2 (4.8)	26.9 (5.2)	0.003
Systolic blood pressure (mmHg)	142.3 (20.1)	146.7 (22.2)	149.3 (23.4)	156.2 (25.5)	<0.001
Diastolic blood pressure (mmHg)	78.6 (10.2)	78.1 (10.5)	77.2 (10.4)	76.9 (12.0)	0.027
Random blood glucose (mg/dl )	167.4 (75.6)	203.4 (102.6)	163.8 (77.4)	196.2 (102.6)	<0.001
HbA1c, %	7.5 (1.6)	8.3 (1.9)	7.4 (1.5)	8.1 (1.8)	<0.001
Serum total cholesterol (mg/dl)	201.1 (46.4)	193.3 (50.3)	201.1 (50.3)	197.2 (58.0)	0.049
Serum HDL cholesterol (mg/dl)	42.5 (11.6)	42.5 (11.6)	46.4 (11.6)	46.4 (15.5)	0.20
eGFR (mL/min/1.73 m <sup>2</sup> ) include category as well,(<60, 30-60, 30)	87.6 (14.7)	88.1 (17.1)	46.2 (12.0)	41.5 (14.0)	<0.001
<b>eGFR stage</b>					
eGFR >60ml/min/1.73m <sup>2</sup>	1633 (100.0)	584 (100.0)	0 (0.0)	0 (0)	<0.001

eGFR 45-60	0 (0.0)	0 (0.0)	205 (62.7)	114 (49.4)	
eGFR 30-45	0 (0.0)	0 (0.0)	84 (25.7)	70 (30.3)	
eGFR < 30	0 (0.0)	0 (0.0)	38 (11.6)	47 (20.3)	
Heart attack (self-reported history)	154 (9.4)	55 (9.5)	60 (18.5)	59 (25.7)	<0.001
<b>DR severity</b>					
None	1633 (100.0)	0 (0.0)	327 (100.0)	0 (0)	<0.001
Minimal/ Mild	0 (0.0)	399 (68.3)	0 (0.0)	110 (47.6)	
Moderate	0 (0.0)	116 (19.9)	0 (0.0)	51 (22.1)	
Severe/ PDR	0 (0.0)	69 (11.8)	0 (0.0)	70 (30.3)	
Data presented are frequency (percentage) or mean (standard deviation) as appropriate P<0.0001 for all variables except random blood glucose (p=0.6)					

<b>eTable 2. Association of risk factors with all-cause and CVD mortality (Joint effect of DR and DKD model)</b>		
<b>Characteristics</b>	<b>All-cause mortality</b>	<b>CVD mortality</b>
	<b>Multivariable*</b>	<b>Multivariable*</b>
	<b>HR (95% CI)</b>	<b>HR (95% CI)</b>
<b>Joint effect of DR and DKD</b>		
No DR and no DKD	Reference	Reference
DR alone	1.38 (1.03 – 1.86)	1.64 (1.06 – 2.56)
DKD alone	1.89 (1.40 – 2.57)	2.26 (1.42 – 3.61)
Both DR and DKD	2.76 (2.05 – 3.72)	3.41 (2.19 – 5.32)
Age, per year	1.07 (1.05 – 1.08)	1.06 (1.03 – 1.08)
Gender, female	0.59 (0.47 – 0.76)	0.62 (0.43 – 0.89)
<b>Ethnicity</b>		
Malay	Reference	Reference
Indian	0.75 (0.57 – 0.99)	0.81 (0.54 – 1.21)
Chinese	0.80 (0.56 – 1.16)	0.83 (0.48 – 1.43)
Primary/below education	1.21 (0.91 – 1.61)	1.05 (0.70 – 1.56)
History of cardiovascular disease	1.52 (1.21 – 1.91)	2.54 (1.85 – 3.48)
Current smoking	1.11 (0.79 – 1.55)	0.90 (0.53 – 1.53)
Alcohol consumption	1.07 (0.70 – 1.66)	0.93 (0.48 -1.78)
Body mass index (kg/m <sup>2</sup> )	1.00 (0.98 – 1.03)	1.00 (0.96 – 1.03)
Hypertension	0.97 (0.71 – 1.32)	0.97 (0.62 – 1.54)
Serum total cholesterol (mmol/L)	1.10 (1.00 – 1.20)	1.01 (0.88 – 1.17)
Serum HDL cholesterol (mmol/L)	0.96 (0.68 – 1.36)	1.01 (0.60 -1.70)
HbA1c, %	1.09 (1.02 – 1.16)	1.17 (1.06 – 1.28)

Duration of diabetes, year	1.00 (0.99 – 1.02)	1.01 (0.99 – 1.02)
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