

Figure legend

Figure 1. Cause-specific excess mortality among dialysis patients (black line) compared with the general population (gray line).

The data are stratified by age. Numbers reflect the ratios of mortality rates in dialysis patients compared with the general population in the 60-74-year-old age group, since most dialysis patients in Japan belong to this age group.

Figure 1. Cause-specific excess mortality among dialysis patients (black line) compared with the general population (gray line).

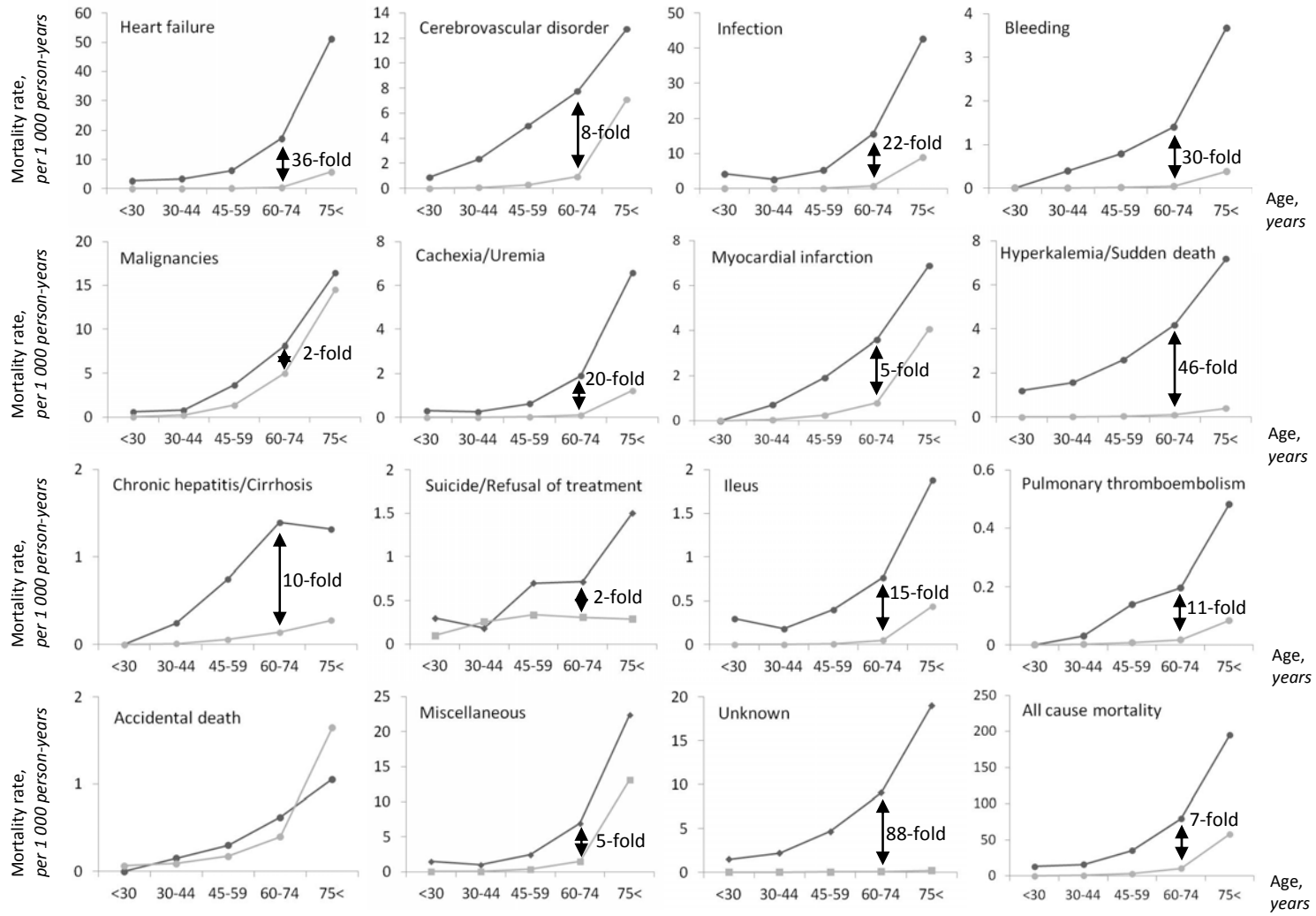


Table 1. All-cause and cause-specific mortality among dialysis patients compared with the general population

Causes of death	Dialysis patients		General population		Standardized mortality ratio [‡] (95% CI)	Difference	
	Total No. of deaths	Crude mortality rates [†]	Crude mortality rates [†]	Age-adjusted mortality rates [†]		Age-adjusted mortality rate difference [†]	% difference in all-cause mortality
Cardiovascular diseases	21 155	38.7	2.4	5.6	6.7 (6.9-7.1)	33.1	44.9
Heart failure	12 155	22.2	0.7	1.7	13.2 (13.0-13.4)	20.6	27.8
Cerebrovascular disorders	4 368	8.0	1.0	2.3	3.5 (3.4-3.6)	5.7	7.7
Myocardial infarction	2 097	3.8	0.6	1.4	2.7 (2.6-2.8)	2.4	3.3
Hyperkalemia/Sudden death	2 402	4.4	0.1	0.1	29.6 (28.4-30.8)	4.2	5.8
Pulmonary thromboembolism	133	0.2	0.0	0.0	7.9 (6.6-9.3)	0.2	0.3
Non-cardiovascular diseases	24 351	44.6	6.6	14.6	3.1 (3.0-3.1)	30.0	40.6
Infection	10 435	19.1	1.1	2.6	7.5 (7.3-7.6)	16.5	22.4
Bleeding	962	1.8	0.1	0.1	14.5 (13.6-15.5)	1.6	2.2
Malignancies	4 763	8.7	2.8	6.2	1.4 (1.4-1.4)	2.5	3.3
Cachexia/Uremia	1 458	2.7	0.2	0.4	7.5 (7.1-7.9)	2.3	3.1
Chronic hepatitis/Cirrhosis	626	1.1	0.1	0.1	7.8 (7.2-8.4)	1.0	1.4
Suicide/Refusal of treatment	480	0.9	0.2	0.3	2.9 (2.6-3.1)	0.6	0.8
Ileus	504	0.9	0.1	0.1	6.8 (6.2-7.4)	0.8	1.1
Miscellaneous [§]	5 123	9.4	2.9	4.1	2.3 (2.2-2.3)	5.3	7.2
Accidental death	341	0.6	0.0	0.6	1.0 (0.9-1.1)	0.0	0.0
Unknown	5 576	10.2	0.1	0.1	91.3 (88.9-93.7)	10.1	13.7
All-cause mortality	51 423	94.1	9.1	20.3	4.6 (4.6-4.7)	73.8	100.0

Numbers may not add up due to rounding. [†]Per 1 000 person-years; [‡]Standardized for age; [§]For details, refer to the Appendix; CI: confidence interval.

Appendix. List of diseases and related ICD-10 codes

Causes of death	
Heart failure	Pulmonary heart disease (I27) Pericarditis (I30–I32) Endocarditis and valvular disorder (I33–I39) Conduction blockage (I44–I45) Arrhythmia (I47–I49) Cardiac failure (I50) Lung edema (J81)
Cerebrovascular disorders	Subarachnoid hemorrhage (I60), Intracerebral hemorrhage (I61), Cerebral infarction (I63) Other cerebrovascular diseases (I62, I64–I69)
Myocardial infarction	Ischemic heart disease (I20–I25) Myocarditis (I40–I41) Cardiomyopathy (I42–I43)
Hyperkalemia/Sudden death	Hyperkalemia (E87) Cardiac arrest (sudden death) (I46)
Pulmonary thromboembolism	Lung embolism (I26)
Infection	Tuberculosis (A15–A19) Septicemia (A40–A41) Acute viral hepatitis (B15.9, B16.1, B16.9, B17) Fulminant viral hepatitis (B15.0, B16.0, B16.2, K72.0) Human immunodeficiency virus (HIV) infection (B20–B24) Other infectious diseases (A00–A09, A20–39, A42–A99, B00–B09, B25–B99, G00–G09) Influenza (J10–J11) Pneumonia (J12–J18), Peritonitis (K65)
Malignancies	Malignant neoplasms of digestive organs (C00–C26) Malignant neoplasms of respiratory organs (C30–C39) Malignant neoplasms of bone and cartilage (C40–C41) Malignant neoplasms of skin and soft tissue (C43–C49) Malignant neoplasms of breast (C50) Malignant neoplasms of female genital organs (C51–C58) Malignant neoplasm of kidney (C64) Malignant neoplasms of urinary tract and male genital organs (C60–C63, C65–C68) Malignant neoplasms of eye, brain, and central nervous system (C69–C72) Malignant neoplasms of internal glands (C73–C75) Malignant neoplasms of lymphoid and hematopoietic tissue (C81–C96, D45–D47) Other neoplasms and cachexia (C76–C80, C97, D00–D44, D48)
Cachexia/Uremia	Uremia (N18) Cachexia (R64) Dementia (syndrome) (F01, F03)
Chronic hepatitis/Cirrhosis	Hepatic fibrosis and cirrhosis (K74)
Ileus	Intestinal hematogenous disorder (K55) Ileus (K56)
Bleeding	Gastrointestinal bleeding (K92)
Suicide/Refusal of treatment	Suicide (X60–X84) Refusal of treatment (dialysis refusal) (Z531, Z532)
Accidental death	Disaster and accidental death (V01–X59, X85–Y36)
Miscellaneous	Dialysis encephalopathy (F02.8) Gallbladder and biliary tract diseases (K80–K83) Acute pancreatitis (K85) Other (B18–B19, D50–D89, E00–E874, E876–E90, F04–F99, G10–G99, H00, 95, I00–I15, I28, I51–I52, I70–I99, J00–J06, J20–J80, J82–99, K00–K52, K57–K63, K66–K71, K721–K73, K75–K77, K86–K87, K90–K91, K93, L00–L99, M00–M99, N00–N17, N188–N99, O00–O99, P00–P96, Q00–Q99, R00–R63, R65–R94, S00–S99, T00–T98)
Unknown	Undetermined (R95–R99)