

Supplementary Table 2. Incidence rates and hazard ratios of fractures in diabetes cohort according to the BMI 5 level by age, sex, chronic kidney disease, ischemic heart disease, duration of DM ≥ 5 years, and use of three or more oral hypoglycemic agents

Variable	BMI, kg/m ²	Total fractures		Vertebral fractures		Hip fractures		Fractures of limbs (upper arm, forearm, and lower leg)	
		IR	Adjusted HR	IR	Adjusted HR	IR	Adjusted HR	IR	Adjusted HR
Age, yr									
40–64	<18.5	16.4624	1.285 (1.223–1.351)	3.0445	1.255 (1.12–1.405)	2.7684	3.058 (2.7–3.463)	11.4153	1.15 (1.084–1.22)
	<23	12.7706	1 (ref)	2.4607	1 (ref)	0.8546	1 (ref)	9.9039	1 (ref)
	<25	11.3721	0.925 (0.91–0.94)	2.3995	1.008 (0.972–1.045)	0.513	0.627 (0.585–0.672)	8.8472	0.929 (0.912–0.946)
	<30	10.8962	0.907 (0.893–0.92)	2.4439	1.051 (1.017–1.086)	0.4088	0.522 (0.489–0.557)	8.4163	0.902 (0.887–0.918)
	≥30	11.4879	0.916 (0.894–0.939)	2.7633	1.129 (1.073–1.187)	0.4252	0.552 (0.491–0.621)	8.749	0.896 (0.872–0.922)
≥65	<18.5	39.6149	1.262 (1.21–1.317)	14.4119	1.285 (1.201–1.376)	12.4171	1.69 (1.569–1.82)	15.5958	1.055 (0.989–1.126)
	<23	29.8197	1 (ref)	10.4106	1 (ref)	6.3622	1 (ref)	14.9266	1 (ref)
	<25	26.159	0.898 (0.883–0.913)	9.5858	0.942 (0.917–0.968)	4.4774	0.754 (0.726–0.782)	13.8934	0.936 (0.915–0.958)
	<30	26.1089	0.865 (0.851–0.878)	9.7073	0.905 (0.883–0.928)	4.0609	0.678 (0.655–0.702)	13.9764	0.91 (0.891–0.929)
	≥30	27.9421	0.816 (0.793–0.84)	10.6512	0.855 (0.817–0.895)	4.3147	0.655 (0.612–0.701)	14.7421	0.857 (0.824–0.891)
<i>P</i> for interaction		0.0006		<0.0001		<0.0001		0.0012	
Sex									
Male	<18.5	21.0147	1.466 (1.4–1.535)	5.77722	1.593 (1.461–1.735)	5.61813	2.325 (2.126–2.542)	10.9783	1.206 (1.134–1.284)
	<23	13.146	1 (ref)	3.07197	1 (ref)	1.92763	1 (ref)	8.7016	1 (ref)
	<25	10.5123	0.846 (0.831–0.862)	2.47709	0.887 (0.855–0.919)	0.98108	0.591 (0.561–0.623)	7.4728	0.89 (0.871–0.909)
	<30	9.3965	0.807 (0.794–0.821)	2.19753	0.876 (0.846–0.906)	0.66415	0.472 (0.448–0.497)	6.8414	0.846 (0.83–0.863)
	≥30	8.2961	0.806 (0.778–0.835)	1.73865	0.86 (0.798–0.926)	0.42849	0.414 (0.359–0.478)	6.3235	0.837 (0.804–0.872)
Female	<18.5	31.1991	1.115 (1.065–1.167)	9.6476	1.049 (0.969–1.136)	7.64866	1.591 (1.453–1.741)	16.0265	0.986 (0.927–1.049)
	<23	25.2398	1 (ref)	7.66477	1 (ref)	3.54312	1 (ref)	15.5534	1 (ref)
	<25	24.5135	0.965 (0.95–0.98)	7.91177	1.028 (1–1.056)	2.8456	0.83 (0.796–0.865)	15.2051	0.975 (0.956–0.994)
	<30	23.7276	0.946 (0.933–0.959)	7.79698	1.025 (1–1.05)	2.5132	0.762 (0.734–0.792)	14.7572	0.96 (0.943–0.976)
	≥30	20.644	0.914 (0.895–0.935)	6.7306	1.02 (0.982–1.06)	1.96991	0.74 (0.693–0.79)	13.1687	0.916 (0.892–0.942)
<i>P</i> for interaction		<0.0001		<0.0001		<0.0001		<0.0001	
Chronic kidney disease									
No	<18.5	24.0589	1.285 (1.241–1.33)	7.07126	1.287 (1.209–1.37)	5.7251	1.951 (1.817–2.096)	12.8442	1.098 (1.047–1.15)
	<23	17.0838	1 (ref)	4.62728	1 (ref)	2.1867	1 (ref)	11.1975	1 (ref)
	<25	14.7837	0.916 (0.904–0.927)	4.15258	0.968 (0.945–0.991)	1.369	0.715 (0.688–0.742)	10.051	0.938 (0.924–0.953)
	<30	14.0189	0.895 (0.884–0.905)	4.02433	0.971 (0.95–0.992)	1.1028	0.631 (0.609–0.654)	9.5972	0.913 (0.9–0.926)
	≥30	14.0134	0.883 (0.865–0.901)	4.0404	0.975 (0.939–1.012)	0.9891	0.634 (0.591–0.681)	9.7038	0.889 (0.867–0.911)
Yes	<18.5	33.5855	1.176 (1.08–1.28)	9.59794	1.062 (0.91–1.238)	12.4351	1.717 (1.495–1.972)	14.4448	0.997 (0.879–1.131)
	<23	25.9094	1 (ref)	7.64526	1 (ref)	6.0228	1 (ref)	13.892	1 (ref)
	<25	22.353	0.91 (0.883–0.938)	7.24047	1.014 (0.962–1.068)	4.1847	0.763 (0.716–0.814)	12.5144	0.936 (0.9–0.974)
	<30	21.3879	0.874 (0.851–0.898)	7.03596	0.98 (0.934–1.027)	3.5826	0.681 (0.643–0.722)	12.1888	0.911 (0.879–0.944)
	≥30	21.9541	0.833 (0.796–0.871)	7.55531	0.967 (0.897–1.043)	3.3537	0.629 (0.566–0.7)	12.542	0.861 (0.812–0.913)
<i>P</i> for interaction		0.1779		0.0053		<0.0001		0.5165	

(Continued to the next page)

Supplementary Table 2. Continued

Variable	BMI, kg/m ²	Total fractures		Vertebral fractures		Hip fractures		Fractures of limbs (upper arm, forearm, and lower leg)	
		IR	Adjusted HR	IR	Adjusted HR	IR	Adjusted HR	IR	Adjusted HR
Ischemic heart disease									
No	<18.5	24.353	1.279 (1.236–1.324)	6.9399	1.242 (1.167–1.322)	6.13524	1.924 (1.797–2.061)	12.9049	1.106 (1.056–1.158)
	<23	17.2498	1 (ref)	4.6604	1 (ref)	2.39202	1 (ref)	11.1356	1 (ref)
	<25	14.9574	0.917 (0.905–0.928)	4.214	0.974 (0.952–0.998)	1.53057	0.723 (0.698–0.75)	10.0313	0.941 (0.926–0.955)
	<30	14.2059	0.893 (0.883–0.903)	4.0831	0.97 (0.949–0.991)	1.25722	0.641 (0.619–0.663)	9.5865	0.913 (0.9–0.926)
	≥30	14.2578	0.877 (0.86–0.895)	4.1667	0.975 (0.94–1.012)	1.15261	0.634 (0.593–0.677)	9.7144	0.888 (0.866–0.91)
Yes	<18.5	32.7565	1.195 (1.086–1.314)	11.5984	1.307 (1.118–1.528)	9.67369	1.742 (1.465–2.07)	14.1889	0.924 (0.803–1.063)
	<23	24.7134	1 (ref)	7.4522	1 (ref)	4.33565	1 (ref)	14.5385	1 (ref)
	<25	20.5684	0.898 (0.871–0.926)	6.5995	0.975 (0.924–1.028)	2.79587	0.738 (0.684–0.797)	12.5311	0.913 (0.878–0.95)
	<30	19.3792	0.872 (0.848–0.896)	6.352	0.97 (0.924–1.018)	2.28694	0.653 (0.609–0.701)	12.0305	0.891 (0.86–0.924)
	≥30	19.2987	0.838 (0.801–0.877)	6.2849	0.935 (0.866–1.011)	2.02143	0.613 (0.539–0.696)	12.0899	0.842 (0.795–0.891)
<i>P</i> for interaction		0.4555		0.9369		0.4574		0.1224	
Duration of DM ≥5 years									
No	<18.5	22.5597	1.266 (1.215–1.319)	7.04011	1.243 (1.156–1.336)	5.23968	1.834 (1.682–2)	11.866	1.104 (1.044–1.167)
	<23	15.5175	1 (ref)	4.41734	1 (ref)	1.84631	1 (ref)	10.062	1 (ref)
	<25	13.5633	0.919 (0.905–0.933)	3.92682	0.961 (0.934–0.989)	1.17272	0.731 (0.697–0.767)	9.151	0.942 (0.924–0.96)
	<30	13.0661	0.9 (0.888–0.913)	3.87611	0.971 (0.946–0.996)	0.97479	0.646 (0.618–0.675)	8.8633	0.918 (0.903–0.934)
	≥30	12.9339	0.87 (0.85–0.891)	3.87308	0.959 (0.919–1)	0.85429	0.614 (0.564–0.668)	8.8659	0.878 (0.854–0.903)
Yes	<18.5	30.4922	1.264 (1.2–1.331)	7.98205	1.233 (1.118–1.359)	8.99377	1.956 (1.781–2.148)	15.4653	1.05 (0.978–1.126)
	<23	22.5145	1 (ref)	5.88709	1 (ref)	3.92123	1 (ref)	14.0409	1 (ref)
	<25	19.7364	0.911 (0.895–0.927)	5.61506	1 (0.968–1.034)	2.68437	0.724 (0.693–0.757)	12.6754	0.934 (0.914–0.955)
	<30	19.2582	0.88 (0.865–0.894)	5.56527	0.98 (0.95–1.01)	2.38763	0.644 (0.618–0.672)	12.4167	0.903 (0.885–0.922)
	≥30	20.9286	0.888 (0.861–0.915)	6.16822	1.006 (0.953–1.063)	2.48743	0.655 (0.603–0.712)	13.496	0.901 (0.868–0.936)
<i>P</i> for interaction		0.015		0.0708		0.1407		0.0586	
Use of three or more oral hypoglycemic agents									
No	<18.5	23.524	1.269 (1.22–1.319)	7.07537	1.225 (1.144–1.313)	5.65983	1.845 (1.704–1.997)	12.2505	1.096 (1.04–1.155)
	<23	16.4108	1 (ref)	4.58666	1 (ref)	2.10332	1 (ref)	10.5934	1 (ref)
	<25	14.3674	0.922 (0.91–0.935)	4.1687	0.982 (0.957–1.007)	1.35703	0.731 (0.702–0.762)	9.6062	0.942 (0.926–0.958)
	<30	13.7294	0.9 (0.889–0.912)	4.05537	0.979 (0.956–1.002)	1.13626	0.655 (0.631–0.681)	9.2276	0.916 (0.902–0.93)
	≥30	13.7021	0.879 (0.86–0.898)	4.16147	0.987 (0.949–1.027)	1.04667	0.65 (0.604–0.699)	9.2368	0.879 (0.857–0.903)
Yes	<18.5	29.5247	1.258 (1.186–1.333)	8.10199	1.29 (1.158–1.438)	8.66658	1.962 (1.764–2.183)	15.1977	1.053 (0.972–1.14)
	<23	23.1599	1 (ref)	6.0878	1 (ref)	4.1459	1 (ref)	14.3385	1 (ref)
	<25	20.1762	0.899 (0.879–0.919)	5.66412	0.965 (0.927–1.005)	2.84732	0.722 (0.685–0.762)	12.9491	0.929 (0.904–0.954)
	<30	19.4001	0.871 (0.853–0.888)	5.62075	0.962 (0.926–0.998)	2.38853	0.628 (0.598–0.661)	12.5737	0.902 (0.88–0.925)
	≥30	19.808	0.864 (0.835–0.895)	5.60733	0.936 (0.877–0.999)	2.14076	0.601 (0.544–0.664)	13.1567	0.898 (0.86–0.937)
<i>P</i> for interaction		0.109		0.8252		0.9454		0.2813	

BMI, body mass index; DM, diabetes mellitus; IR, incidence rate; HR, hazard ratio.