SUPPLEMENTARY FILE

Mortality is increased in patients with rheumatoid arthritis or diabetes compared to the general population – the Nord-Trøndelag Health Study

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Supplementary Table S1: Baseline and disease-specific characteristics including participants with missing covariates [1,2,3]

	RA N=475	Diabetes N=3,820	RA + Diabetes N=41	Controls N=72,582
Baseline characteristics				
Sex				
Female	326 (69)	1,852 (48)	25 (61)	38,571 (53)
Male	149 (31)	1,969 (52)	16 (39)	34,024 (47)
Age (years)	58 (49, 68)	62 (51, 73)	66 (59, 73)	46 (34, 60)
Smoking status				
Never smoker	152 (32)	1,527 (40)	18 (44)	31,569 (43)
Former smoker	160 (34)	846 (22)	9 (22)	19,788 (27)
Current smoker	140 (29)	1,156 (30)	14 (34)	16,407 (23)
Previous CVD [4]	51 (11)	754 (20)	10 (24)	4,685 (6)
BMI (kg/m²)	26.1 (23.8, 29.0)	28.9 (26.1, 32.2)	27.8 (24.4, 30.9)	25.7 (23.4, 28.4)
Hypertension [5]	233 (49)	2,711 (71)	29 (71)	27,609 (38)
Waist/hip ratio	0.84 (0.79, 0.90)	0.90 (0.84, 0.96)	0.88 (0.84, 0.93)	0.85 (0.79, 0.90)
Non-fasting glucose	5.2 (4.7, 5.9)	7.3 (5.7, 10.7)	6.7 (5.5, 9.6)	5.1 (4.7, 5.6)

(mmol/L)				
Creatinine (µmol/L)	83 (76, 92)	89 (80, 99)	85 (79, 96)	85 (77, 94)
Triglycerides (mmol/L)	1.4 (1.0, 2.0)	2.1 (1.4, 3.1)	1.6 (1.3, 2.4)	1.4 (1.0, 2.1)
Total cholesterol (mmol/L)	5.9 (5.2, 6.8)	6.0 (5.2, 6.9)	6.0 (5.2, 6.8)	5.6 (4.8, 6.5)
HDL cholesterol (mmol/L)	1.4 (1.1, 1.7)	1.2 (0.9, 1.4)	1.3 (1.1, 1.6)	1.3 (1.1, 1.6)
Total cholesterol/HDL cholesterol ratio	4.2 (3.4, 5.4)	5.1 (4.1, 6.5)	4.5 (3.6, 5.5)	4.2 (3.3, 5.3)
Observation time (years)	18.0 (12.1, 18.8)	17.4 (7.5, 18.4)	14.6 (7.2, 18.2)	17.9 (8.0, 18.7)

RA-specific variables

Seropositive [6]	348 (73)		31 (76)	
Age when diagnosed (years)	55 (44, 65)		61 (53, 70)	
RA duration before first HUNT participation with diagnosis (years)	6 (3, 9)		7 (4. 9)	

Diabetes-specific variables

Peroral diabetes medication		1,469 (38)	15 (37)	
Insulin		722 (19)	10 (24)	
Age when diagnosed (years)		59 (49, 68)	61 (50, 69)	

Diabetes duration before	5 (2, 11)	6 (3, 12)
first HUNT participation		
with diagnosis (years)		

Supplementary Table S2: Sensitivity analyses 1, 4, and 5

	Hazard ratio	95 % Confidence interval	P-value
Sensitivity analysis 1: Cox regression for mortality by age groups			
Rheumatoid arthritis ≤75 years	1.21	0.79-1.62	0.25
Rheumatoid arthritis >75 years	1.24	1.01-1.48	0.035
Diabetes age ≤75 years	1.83	1.61-2.05	<0.001
Diabetes age >75 years	1.49	1.39-1.59	<0.001
Sensitivity analysis 4: Cox regression for mortality after multiple imputation of missing adjustment variables			
Rheumatoid arthritis	1.20	1.03-1.40	0.021
Diabetes age ≤75 years	1.90	1.70-2.12	<0.001
Diabetes age >75 years	1.43	1.27-1.62	<0.001
Sensitivity analysis 5: Cox regression for mortality excluding patients with both diseases			
Rheumatoid arthritis	1.24	1.02-1.46	0.017
Diabetes age ≤75 years	1.83	1.61-2.06	<0.001
Diabetes age >75 years	1.52	1.39-1.59	<0.001

All models are from Step 3, i.e. adjusted for sex, hypertension [1], smoking [2], BMI [3], creatinine, total cholesterol, and previous cardiovascular disease [4]

Age was used as the time variable and was thereby adjusted for in all models

Abbreviations: BMI – body mass index

[1]Hypertension: Systolic blood pressure ≥ 140, diastolic blood pressure ≥ 90, or on blood pressure-

lowering medication

[2]Smoking: never smoker, current smoker or former smoker

[3]BMI: categorised as <18.5 kg/m², 18.5-24.9 kg/m², 25-29.9 kg/m², 30-34.9 kg/m² and ≥35 kg/m²

[4]Previous cardiovascular disease: self-reported angina, stroke, or myocardial infarction