

Data Supplement

Supplementary Table 1: Number of patients included in the study according to the level of confidence for the axial Spondyloarthritis (axSpA) diagnosis by the examining physician at baseline.

Diagnosis axSpA according to the physician	N (%)
Confidence level 6	33 (9.6)
Confidence level 7	49 (14.2)
Confidence level 8	90 (26.2)
Confidence level 9	103 (29.2)
Confidence level 10	69 (20.1)

Supplementary Data 1:

Statistical analysis

Random Coefficient Analysis (RCA) is considered suitable for the analysis of longitudinal data as it enables handling of the correlation between repeated outcome measurements, missing data, irregularly timed data and the mixture of time-independent and time dependent covariates. In RCA, the regression coefficients (intercept and slope) are allowed to vary between subjects. According to this, the variance in the outcome that cannot be explained by the predictors may be partly explained by between-patient variation in intercept (random intercept) and /or between-patient variation in slope (random slope). (Twisk, J., Applied Longitudinal Data Analysis for Epidemiology, A Practical Guide. 2003, New York: Cambridge University Press.)

Supplementary Table 2: Number of patients included in the study from each participating center at baseline.

Center	N (%)
Netherlands (3 sub-centers)	157 (45.6)
Leiden	123 (35.8)
Amsterdam	22 (6.4)
Gouda	12 (3.5)
Oslo	54 (15.7)
Padua	70 (20.3)
Sweden (9 sub-centers)	63 (18.3)
Total	344 (100)

Supplementary Table 3: Number of individuals attending each visit and with available values for the ASDAS and its individual components and longitudinally.

	Number of patients	ASDAS	BASDAI Q2	BASDAI Q3	BASDAI Q6	Patient's global assessment of DA	CRP (mg/L)
All 3 time-points	273	214	235	238	237	228	259
2 time-points	42	75	65	63	65	70	51
<i>BL+3</i>	32	40	38	38	38	39	35
<i>BL+12</i>	10	23	18	17	18	22	13
<i>3+12</i>	NA	12	9	8	9	9	3
1 time-point	29	48	40	39	38	43	33
<i>BL</i>	29	39	35	35	35	38	32
<i>3</i>	NA	6	4	3	3	4	1
<i>12</i>	NA	3	1	1	0	1	0
None	NA	7	4	4	4	4	1
<p>Total number of patients at BL=344, at 3 months=305, at 12 months=283</p> <p>10 patients missed the 3 months visit; 32 patients did not attend the 12 months visit (Either missed the visit or dropped out of the study); 29 patients did not attend both the 3- and 12-months visit (possibly dropped out of the study, however missing visits cannot be excluded)</p> <p>ASAS (Ankylosing Spondylitis Disease Activity Score-CRP), BASDAI (Bath Ankylosing Spondylitis Disease Activity Index), CRP (C-reactive protein), NA (Non Applicable), DA (Disease Activity), Q (Question)</p>							

Supplementary Table 4: Mean difference in the ASDAS components over the first year of follow-up by baseline lifestyle factors, all patients.

	BASDAI Q2 Spinal Pain	BASDAI Q3 Peripheral joint symptoms	BASDAI Q6 Duration of morning stiffness	Patient's global assessment of DA	Log10 (CRP+1)‡
Lifestyle variable	Multivariable Model¹	Multivariable Model¹	Multivariable Model¹	Multivariable Model¹	Multivariable Model¹
	N exposed (299)	N exposed (299)	N exposed (299)	N exposed (300)	N exposed (300)
	β (95% CI)	β (95% CI)	β (95% CI)	β (95% CI)	β (95% CI)
BMI (kg/m²)					
Normal (<25)	Ref	Ref	Ref	Ref	Ref
Overweight (25-29.9)	0.57 (-0.02, 1.15)	0.32 (-0.30, 0.93)	0.06 (-0.57, 0.68)	0.32 (-0.28, 0.92)	0.01 (-0.06, 0.09)
Obese (≥30)	0.31 (-0.49, 1.12)	0.27 (-0.58, 1.13)	-0.01 (-0.87, 0.86)	0.36 (-0.47, 1.19)	0.18 (0.08, 0.28)*
Smoking					
Never	Ref	Ref	Ref	Ref	Ref
Previous	-0.11 (-0.70, 0.47)	0.77 (0.15, 1.39)*	0.57 (-0.05, 1.20)	0.25 (-0.35, 0.85)	0.06 (-0.02, 0.13)
Current	0.92 (0.18, 1.67)*	0.33 (-0.46, 1.12)	0.93 (0.13, 1.72)*	0.34 (-0.42, 1.11)	0.02 (-0.07, 0.12)
Alcohol (Units/week)†					
None	Ref	Ref	Ref	Ref	Ref

Missing category	-0.36 (-1.11, 0.39)	-0.16 (-0.95, 0.63)	0.52 (-0.28, 1.32)	-0.29 (-1.06, 0.48)	-0.01 (-0.11, 0.08)
Lowest (0.1-2)	-0.04 (-0.73, 0.65)	-0.08 (-0.81, 0.65)	0.14 (-0.60, 0.88)	-0.13 (-0.84, 0.58)	-0.03 (-0.12, 0.06)
Middle (3-5)	-0.98 (-1.86, -0.10)*	-1.11 (-2.04, -0.18)*	0.57 (-0.37, 1.51)	-0.89 (-1.79, 0.01)	-0.03 (-0.14, 0.09)
Highest (≥6)	-1.06 (-1.88, -0.25)*	-1.42 (-2.28, -0.56)*	0.07 (-0.79, 0.94)	-0.63 (-1.46, 0.20)	-0.002 (-0.11, 0.10)

*<0.05

N exposed is the number of patients included in each model.

Random Coefficient Analysis by Linear Mixed Models was used for the estimates. All models include random intercept.

β reflects the estimated mean difference in Disease Activity Measurements over the first year.

¹Adjusted for each other of the lifestyle variables, sex, age, education level at baseline and treatment with NSAIDs (Non-Steroidal Anti-inflammatory drugs), csDMARDs (conventional synthetic Disease Modifying Anti-Rheumatic Drugs), bDMARDs (biologic Disease Modifying Anti-Rheumatic Drugs) as time-varying covariates

†Missing is a category

‡ The logarithm of CRP (mg/L) + 1 is the outcome of the present LMM analysis

BASDAI (Bath Ankylosing Spondylitis Disease Activity Index), BMI (Body Mass Index), DA (Disease Activity)