The effect of socioeconomic class and immigrant status on disease activity in rheumatoid arthritis.

Data from BARFOT, a multicenter study of early RA.

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Conclusions

Immigrants had higher VAS pain,
TJC, HAQ, and worse DAS28 and
VAS global health up to 2 years of
follow-up, but did not differ in SJC,
CRP, ESR or EULAR outcome as
compared to non-immigrants.

Socioeconomic class did not have impact on treatment or outcome. The relatively egalitarian society in Sweden may contribute to these results.

Background

There are no studies reporting the effect of immigrant status and socioeconomic status on outcome in rheumatoid arthritis (RA) in Sweden.

Methods

Between 1992 and 2006, 2,800 adult patients were included in the BARFOT early RA study in Sweden. Disease Activity Score 28 joints (DAS28), its individual components, Health Assessment Questionnaire (HAQ), drug treatment and European League Against Rheumatism (EULAR) response criteria were applied up to 8 years. In 2010, a self-completed postal questionnaire was sent to 2102 patients in the BARFOT study enquiring about lifestyle factors and demographics.

	Blue-collar (n = 511)	Lower white- collar (n = 526)	Upper white- collar (n = 81)	Self- employed (n = 16)	Other (n = 16)	p-value
Age, years	56 (13)	54 (14)	50 (16)	63 (8.9)	61 (17)	0.001
Disease duration, months	7.0 (4.5)	6.8 (4.3)	6.3 (3.3)	5.3 (3.0)	8.0 (4.7)	0.25
Females, %	63	80	64	25	92	0.000
HAQ	1.0 (0.6)	0.98 (0.6)	0.86 (0.6)	0.65 (0.5)	1.0 (0.6)	0.08
DAS28	5.2 (1.3)	5.3 (1.3)	5.1 (1.1)	5.0 (1.4)	5.3 (1.2)	0.60
VAS pain	49 (24)	44 (23)	42 (24)	43 (21)	48 (24)	0.005
VAS global	45 (26)	45 (25)	41 (25)	44 (20)	46 (27)	0.87
CRP	31 (36)	30 (34)	29 (39)	32 (24)	31 (38)	0.66
ESR	34 (24)	35 (24)	30 (19)	32 (22)	40 (29)	0.53
Swollen joints, 28-joint count	10 (5.6)	10 (5.8)	9.7 (5.5)	13 (6.1)	8.2 (4.5)	0.18
Tender joints, 28-joint count	8.3 (6.3)	8.5 (6.4)	7.6 (5.4)	7.5 (6.3)	7.4 (5.4)	0.85
Smokers, %	28	21	16	33	13	0.03

Table 1. Disease activity and demographics at inclusion stratified for socioeconomic class. Data are mean (SD) unless otherwise indicated.

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Results

A total of 139/1430 (9.7%) of the patients were immigrants. Immigrants had higher baseline mean HAQ (immigrants 1.2 vs. non-immigrants 0.97, p=0.001), DAS28 (5.6 vs. 5.2, p=0.0000), visual analog scale (VAS) pain (56 mm vs. 45 mm, p=0.000), VAS global health (53 mm vs. 44 mm, p=0.000) and tender joint count (TJC) (10 vs. 8, p=0.000). These differences persistied up to 2 years of follow-up and for HAQ up to 8 years of follow-up. Immigrant status did not have effect on swollen joint count (SJC), ESR, CRP or EULAR response. Socioeconomic class did not have impact on treatment or outcome.

	EULAR go	EULAR good response vs. no or moderate			
	OR	95% CI	p-value		
Age at inclusion	0.99	0.97-1.0	0.06		
Disease duration, months at inclusion	0.95	0.92-0.99	0.02		
Male sex	2.23	1.50-3.32	0.000		
Blue-collar	0.72	0.37-1.40	0.33		
Lower white-collar	0.91	0.47-1.77	0.77		
Self-employed	0.76	0.18-3.27	0.71		
Other	0.15	0.04-0.67	0.01		
Non-immigrant	1.18	0.61-2.31	0.62		
RF	0.98	0.69-1.39	0.90		
Current smoker	0.64	0.42-0.98	0.04		
Previous smoker	0.76	0.51-1.12	0.17		
Cumulative number of previous DMARDs and biologics	0.64	0.56-0.74	0.000		
HAQ	1.26	0.95-1.69	0.11		
BMI < 19	0.94	0.30-2.92	0.91		
BMI 26–30	0.98	0.67-1.44	0.91		
BMI > 30	0.76	0.47-1.24	0.27		

Table 2. Multiple logistic regression analysis with EULAR good response vs. no or moderate response at 5 years of follow-up. The reference for SEI class was upper white-collar, for immigration status it was being an immigrant, for smokers it was never having smoked and for BMI it was 19–25.9.