

Factors associated with influenza and pneumococcal vaccine uptake among Danish rheumatoid arthritis patients invited to participate in a pneumococcal vaccine trial (Immunovax_RA)

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Background

Rheumatoid Arthritis (RA) patients are at increased risk of suffering from respiratory infections compared to the general public. Vaccinations against *Streptococcus pneumoniae* and influenza should be strongly considered in RA patients receiving conventional or biological DMARD (Disease Modifying Anti-Rheumatic Drugs). This study aimed to estimate the prevalence and predictors of influenza and pneumococcal vaccine coverage among RA patients invited to participate in a trial of pneumococcal vaccination, and to explore possible differences according to RA therapy.

Methods

Overall, 228 RA patients from two rheumatologic clinics in the Region of Southern Denmark were informed about the survey, which was completed by a total of 192 (84%). The questionnaire included questions concerning previous influenza and pneumococcal vaccine uptake and attitudes about vaccination, civil status, household income and education level. Information about co-morbidities was available for patients included in the trial (n= 100). Factors associated with recalled vaccine uptake were assessed by multivariate logistic regression.

Results

Among the 192 RA patients who completed the survey: 134 (70%) were women and 90 (47%) aged 65 years or above. Sixty-seven (35%) patients received cDMARD and 125 (65%) bDMARD. Self-reported uptake of vaccination against seasonal influenza ever was 59% overall; 57% among patients receiving cDMARD and 61% in patients receiving bDMARD. Vaccine uptake against pneumococcal diseases was only 6%. Among the 100/192 participants enrolled in the trial, comorbidities were present in 85% of patients, with 32% reporting two or more conditions. The prevalence of comorbidities was similar among patients receiving cDMARD and bDMARD (Figure 1).

Older age, education level, and information and recommendation by specialist or general physician were positively associated with flu-vaccine uptake, while there was no significant difference in vaccine uptake according to type of RA treatment (Table 1). The main reasons for not being vaccinated were fear of adverse effects, lack of information and recommendation, and perception of good health.

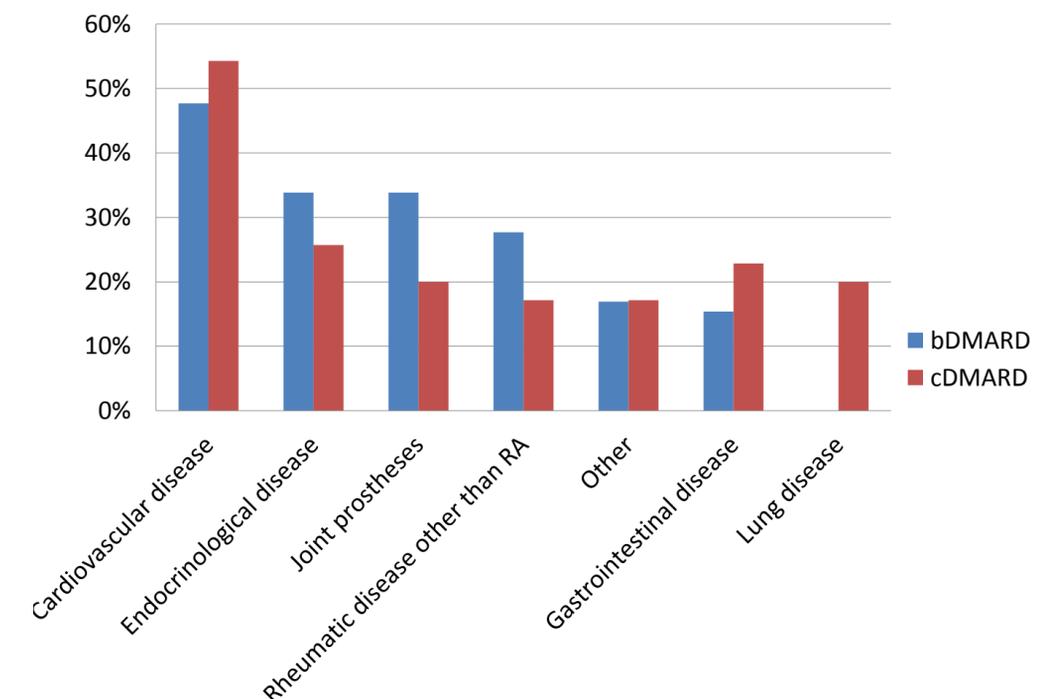
Table 1: Flu vaccine coverage *ever* and factors associated with vaccination in multivariate analysis

	Multivariate OR (95% CI)	p
Age (years)		
18-65	1	
>65	2,53 (1,28-5,00)	0,007
Sex		
Male	1	
Female	0,81 (0,39-1,70)	0,58
Treatment		
cDMARD	1	
bDMARD	1,39 (0,70-2,77)	0,35
Education		
< High school	1	
> High school	2,38 (1,12-5,08)	0,03
Source of information		
General physician	3,35 (1,39-8,08)	0,008
Rheumatologist	2,64 (1,00-6,98)	0,06
Other	1	
None	0,56 (0,15-1,63)	0,30

Conclusion

We observed a low prevalence of flu and in particular of pneumococcal vaccinations among RA patients receiving immunosuppressive drugs, with no difference in coverage according to type of RA therapy. More population specific evidence to support vaccine recommendations may be required, in addition to enhanced efforts to inform patients and physicians.

Figure 1: Co-morbidity among RA patients treated with bDMARD or cDMARD



Conflicts of interests: None.