had or were treated for any of 15 predefined comorbidities (categorised into 0, 1, 2, 3, or ≥ 4 (Table)). Percentage of number of hours missed due RA (i.e. absenteeism) and presenteeism (10-point Likert scale) were assessed using the Work Productivity and Activity Impairment Questionnaire (WPAI-RA). For the purpose of this study both absenteeism and presenteeism outcomes were dichotomized (no presenteeism/absenteeism versus any) and only patients aged <65 yrs were included. Logistic regression analysis were applied to assess the association between number of comorbidities and absenteeism/presenteeism, adjusting for the categorical variables age, gender and education. Chi2-square test was applied to assess frequencies of individual comorbidities between the three employment status groups. **Results:** 868 participants were included; 91.7% women with a median symptom duration of 8.3 years [IQR 4.4-13.7]. The average RAID score was 5.2 (SD 2.2). 80.4% were in paid employment, including those currently on sick leave, 16.9% stopped early because of their RA and 2.7% reported stopping early because of other health reasons. In those employed most commonly occurring comorbidities were: back pain (28.8%), osteoarthritis (21.5%), depression (26.3%) and anxiety (22.6%). Compared to people with RA with no comorbidities, the odds associated with time off work due to RA increased from 1.7 up to 3.4 with increasing number of comorbidities (Table). Although a similar trend was observed for presenteeism, the effect sizes were smaller. Significant differences ($p<0.05$) in frequencies of the following comorbidities were observed between the three employment status groups (Empl, Stop_RA, Stop_Health, respectively): heart disease (3.9%, 7.9%, 20.0%), blood pressure (18.0%, 29.5%, 36.7%), lung disease (5.7%, 16.3%, 26.7%), diabetes (4.4%, 4.2%, 26.7%), ulcer (6.1%, 11.1%, 13.3%), cancer (3.3%, 2.6%, 13.3%), depression (26.3%, 33.6%, 50.0%), OA (21.5%, 44.7%, 63.33%), and back pain (28.8%, 48.4%, 60.0%).

Number of comorbidities	N	Absenteeism (yes/no)		Presenteeism (yes/no)	
		OR	95%CI	OR	95%CI
0	206	Ref.		Ref.	
1	174	1.70	1.06-2.71	1.66	1.00-2.73
2	136	1.77	1.08-2.92	1.99	1.13-2.86
3	85	1.75	1.00-3.08	1.53	0.82-2.86
4-15max	86	3.38	1.98-5.78	2.64	1.28-5.44

OR=odds ratio; 95%CI=95% confidence interval; Comorbidities included: heart disease, blood pressure, lung disease, diabetes, ulcer or stomach disease, kidney disease, liver disease, anaemia or other blood disease, cancer, depression, anxiety, OA, back pain, osteoporosis and Sjögren. Bold figures $P<0.05$.

Conclusion: Although the study is cross-sectional and no temporal association can be determined, this study shows that not only personal and work related contextual factors should be considered when preventing worker productivity loss, but also other comorbidities.

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SAT0073 MYOPENIA AGGRAVATES RHEUMATOID ARTHRITIS IN ELDERLY PATIENTS AS A MEDIATOR

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Background: Ageing affects different systems resulting in a special clinical phenotype of rheumatoid arthritis (RA) in elderly patients who are characterized by higher level of systemic inflammatory and poor function. It also leads to loss of muscle mass causing functional limitation and reduced quality of life. However, little is known about muscle loss in growing elderly RA patients.

Objectives: To explore the characteristics of muscle mass and clinical significance in elderly RA patients.

Methods: Consecutive RA patients were recruited and clinical data including disease activity (DAS28-CRP), function (HAQ-DI) and radiographic indicators (modified Sharp score) were collected. The mass and distribution of muscle were assessed by bioelectric impedance analysis. Myopenia was defined as appendicular skeletal muscle mass index (ASMI) $\leq 7.0\text{kg/m}^2$ in men and $\leq 5.7\text{kg/m}^2$ in women.

Results: (1) There were 643 RA patients recruited with 82.3% female, mean age 49.7 ± 12.9 years and median disease duration 48 (IQR 21,108) months. There were 414 (64.4%) RA patients with active disease (DAS28-CRP ≥ 3.2) and 229 (35.6%) with remission. (2) There were 165 (25.7%) elderly RA patients (age ≥ 60 years) with mean age 65.1 ± 4.5 years. Compared with young patients (age <60 years), elderly RA patients had significantly higher disease activity indicators including PtGA, PrGA, ESR, CRP, DAS28-CRP, DAS28-ESR, SDAI and CDAI, higher HAQ-DI (0.38 vs. 0.13) and higher modified total Sharp score (mTSS, 16 vs. 9, all $P<0.001$). There were 288 (44.8%) RA patients with myopenia and elderly RA patients had higher proportion of myopenia than young patients (54.5% vs. 41.4%, $P=0.003$). (3) Among 4 subgroups according to age and ASMI, elderly RA patients with myopenia ($n=90$, 14.0%) had significant higher DAS28-CRP (3.6 vs. 3.0), higher HAQ-DI (0.50 vs. 0.12) and higher mTSS (21 vs. 7) than those in young patients without myopenia ($n=280$, 43.5%), and had higher mTSS (21 vs. 0.083) than those in elderly patients without myopenia ($n=75$, 11.7%, all $P<0.0083$). (4) Adjusted for confounding factors including gender, disease duration, BMI, smoking habit, RF, ACPA and treatment naïve, multiple linear regression analysis showed that age was positively correlated with DAS28-CRP ($\beta=0.010$), HAQ-DI ($\beta=0.003$) and mTSS ($\beta=0.005$, all $P<0.05$), while ASMI was negatively correlated with DAS28-CRP ($\beta=-0.445$), HAQ-DI ($\beta=-0.124$) and mTSS ($\beta=-0.247$, all $P<0.001$). (5) Mediation analysis showed that old age (≥ 60 years) had total effect on DAS28-CRP ($\beta=0.353$), HAQ-DI ($\beta=0.132$) or mTSS ($\beta=7.909$, all $P<0.05$), but no direct effect on them (all $P>0.05$). ASMI fully mediated the associations between old age and DAS28-CRP, HAQ-DI or mTSS.

Conclusion: Half of elderly RA patients manifest myopenia which aggravates the whole disease of disease activity, joint function and destruction as a mediator. Myopenia, a neglected comorbidity in elderly RA should be emphasized.

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SAT0074 RHEUMATOID ARTHRITIS AT TREATMENT WITH bDMARD OR tsDMARD: VACCINATION RATES AND INCIDENCE OF RESPIRATORY INFECTIOUS DISEASES, RESULTS FROM A COHORT

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Background: Vaccination regimes have been evaluated for long time in rheumatic diseases, being a strong recommendation to vaccinate against Influenza and Pneumococcus (13 and 23-valent). Rheumatoid arthritis (RA) patients have higher rates of infectious diseases, caused by many reasons, being patient's comorbidities, rheumatic disease and treatments used the most important^{1,2}.

Objectives: To analyze the incidence of respiratory infectious diseases in these patients regarding for vaccination status. Also prove the degree of accomplishment of vaccination calendar.

Methods: Patients diagnosed of RA at treatment with bDMARD or tsDMARD, in Rheumatology Department of aforementioned hospital, during Influenza vaccination campaign in 2018 (October 2018 – February 2019) were included. Clinical, demographic and therapeutic data were reviewed. Stata 15.1 was used to perform statistical analysis.

Results: 237 patients finally fulfilled inclusion criteria, excluding deceases or finished treatment (460 patients were diagnosed of RA and 954 patients conform all bDMARD and tsDMARD of Rheumatology Department). Mean age at beginning of vaccination campaign was 61,5 years old (SD 13,6). 79% were female. Mean time of diagnosis was 15,4 years (SD 9,4). 79,7% patients receive Influenza vaccine, although higher rates were found in Pneumococcal vaccine (86,9% 13-valent and 81,8% 23-valent). Most patients were at treatment with anti-TNF (57,2%, the most prevalent was etanercept 27,5% followed by adalimumab 11,0% and infliximab 10,2%). csDMARD concomitant was achieved by 67,4% patients (methotrexate 73%) and 61% receive corticosteroids. Only 3 patients got hospitalized by pneumonia. As opposed, 39 patients suffer from a respiratory infectious disease without hospitalization (mean of 1,33 infections/patient). After multivariate analysis, only 13-valent Pneumococcal vaccine is related statistically significant with higher rates of respiratory infectious diseases (Chi2=6,25 $p=0,012$; OR 2,86 CI95% 1,22 to 6,68). Other variables analyzed were kind of bDMARD/tsDMARD, Influenza vaccine, 23-valent Pneumococcal vaccine, concomitant csDMARD/corticosteroids, but no relationship was found.

Conclusion: Vaccination status is still incomplete in majority of rheumatic patients. Its benefits have been explained in a variety of studies. That is the