Conclusion: Prevalence of COVID-19 symptoms and confirmed cases was similar between diseases, and for symptoms, was not associated with treatment. Despite strong advice from health authorities, less than 50% of patients with inflammatory rheumatic diseases and COVID-19 symptoms were tested. This proportion was not significantly different between diseases and not influenced by type of treatment. Efforts should be made to improve rates of SARS-CoV2 testing in patients with rheumatic diseases.

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POS1169

IMPACT OF THE COVID-19 PANDEMIC ON MORBIDITY AND MORTALITY AMONG SWEDISH PATIENTS WITH INFLAMMATORY JOINT DISEASES VERSUS THE GENERAL POPULATION

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Background: Studies from COVID-19 case-repositories among patients with rheumatic diseases have assessed associations (relative risks) between characteristics of the disease and adverse COVID-19 outcomes. Such designs are susceptible to bias from selection of cases reported. Few studies have assessed absolute and relative risks for COVID-19 outcomes in population-based cohorts of patients with inflammatory joint diseases, nor compared these risks to those in the general population.

Objectives: To estimate all-cause mortality, absolute and relative risks for severe COVID-19 in patients with chronic inflammatory joint diseases, compared over time and to the general population.

Methods: We updated a multi-register nationwide linkage ("ARTIS") on adults with RA, PsA, AS, SpA or JIA and population referents (matched on sex, age, and region), with data on hospitalizations, admission to intensive care (ICU), and deaths due to COVID-19. We calculated all-cause mortality March-September 2015-2020, and absolute and relative risks for COVID-19 outcomes March-September 2020. Patients were compared to population referents using hazard ratios (HR) from Cox models adjusted for comorbidities and socio-economy.

Results: We identified 110567 individuals with inflammatory joint disease (53455 with RA) in Sweden on March 1st 2020, and 484277 matched general population subjects. In all cohorts, the absolute risk of death from any cause in 2020 was higher than 2015-2019 (Figure 1), with a peak in mid-April, but the relative risks of death (vs. the general population) 2020 remained similar to HRs for 2015-2019 (HR for 2020 in Table 1).

Among all individuals with inflammatory joint disease in 2020, the risk for hospitalization, admission to ICU, and death due to COVID-19 was 0.5%, 0.04% and 0.1%, respectively (Table 1). HRs (vs. the general population) were elevated for almost all outcomes. HRs for COVID-19 related outcomes (Table 1) were higher than for non-COVID-19 outcomes; adjustment for co-morbidities and socio-economy explained much of these increases, somewhat less so for the former.

Figure 1. All-cause mortality in Swedish individuals with inflammatory joint disease and general population, March-September 2020 and the average 2015-2019

Table 1. Absolute and relative risks for COVID-19 outcomes in Swedish individuals with inflammatory joint disease compared to general population comparators March-September 2020

	Outcome	Events (risk, %)	Events (risk, %), general population	HR1*	HR2**
All	Hospitalization, all causes	8971 (8.1%)	24273 (5.0%)	1.65	1.18
	Hospitalization, COVID-19	581 (0.5%)	1443 (0.3%)	(1.61, 1.69)	(1.15, 1.21)
	ICU, COVID-19	45 (0.04%)	162 (0.03%)	1.77	1.32
	ICU, COVID-19	45 (0.04%)	162 (0.03%)	(1.61, 1.95)	(1.19, 1.46)
	ICU, COVID-19	45 (0.04%)	162 (0.03%)	1.22	1.17
	ICU, COVID-19	45 (0.04%)	162 (0.03%)	(0.88, 1.70)	(0.82, 1.66)
RA	Death, all causes	1310 (1.2%)	3036 (0.6%)	1.90	1.13
	Death, all causes	1310 (1.2%)	3036 (0.6%)	(1.78, 2.02)	(1.05, 1.21)
	Death, COVID-19	161 (0.1%)	338 (0.07%)	2.09	1.18
	Death, COVID-19	161 (0.1%)	338 (0.07%)	(1.73, 2.52)	(0.97, 1.44)
	Death, COVID-19	161 (0.1%)	338 (0.07%)	1.71	1.21
	Death, COVID-19	161 (0.1%)	338 (0.07%)	(1.66, 1.77)	(1.17, 1.25)
PsA AS SpA JIA	Hospitalization, all causes	5275 (9.9%)	13072 (5.9%)	2.02	1.40
	Hospitalization, COVID-19	379 (0.7%)	784 (0.4%)	(1.78, 2.28)	(1.23, 1.60)
	ICU, COVID-19	31 (0.06%)	79 (0.04%)	1.63	1.53
	ICU, COVID-19	31 (0.06%)	79 (0.04%)	(1.08, 2.48)	(0.98, 2.40)
	ICU, COVID-19	31 (0.06%)	79 (0.04%)	1.99	1.18
	ICU, COVID-19	31 (0.06%)	79 (0.04%)	(1.85, 2.15)	(1.09, 1.28)
PsA AS SpA JIA	Death, all causes	968 (1.8%)	2026 (0.9%)	2.28	1.27
	Death, all causes	968 (1.8%)	2026 (0.9%)	(1.85, 2.81)	(1.02, 1.59)
	Death, COVID-19	134 (0.3%)	245 (0.11%)	1.54	1.16
	Death, COVID-19	134 (0.3%)	245 (0.11%)	(1.48, 1.59)	(1.11, 1.20)
	Death, COVID-19	134 (0.3%)	245 (0.11%)	1.41	1.20
	Death, COVID-19	134 (0.3%)	245 (0.11%)	(1.20, 1.65)	(1.02, 1.41)
PsA AS SpA JIA	ICU, COVID-19	14 (0.02%)	83 (0.03%)	0.78	0.76
	ICU, COVID-19	14 (0.02%)	83 (0.03%)	(0.44, 1.37)	(0.43, 1.37)
	ICU, COVID-19	14 (0.02%)	83 (0.03%)	1.56	0.98
	ICU, COVID-19	14 (0.02%)	83 (0.03%)	(1.38, 1.76)	(0.86, 1.12)
	ICU, COVID-19	14 (0.02%)	83 (0.03%)	1.34	0.83
	ICU, COVID-19	14 (0.02%)	83 (0.03%)	(0.87, 2.05)	(0.54, 1.28)

*HR1 unadjusted, matched (age, sex, and region) **HR2, as HR1 but adjusted for comorbidities and socio-economy

Conclusion: Risks of severe COVID-19 were increased among patients with inflammatory joint diseases, but similar increases were seen for non-COVID-19 morbidity. Co-morbidities and socio-economy explain much of this increase.

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POS1170

SELF-PROTECTION STRATEGIES, HEALTH BEHAVIOR AND DISEASE ACTIVITY DURING THE FIRST WAVE, RE-OPENING AND SECOND WAVE OF THE COVID-19 PANDEMIC IN >7000 DANISH PATIENTS WITH INFLAMMATORY ARTHRITIS

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Background: The COVID-19 pandemic has caused lockdown, reduced access to face-to-face consultations, anxiety about taking immunosuppressive agents and self-isolation¹ which potentially impact rheumatic disease control negatively. However, changes in behavior including self-protection strategies during the ongoing pandemic and impact on rheumatic disease activity have only been scarcely described.

The first COVID-19 wave hit Denmark in March 2020 followed by a gradual re-opening from mid-April and the second surge began in the late autumn of 2020.

Objectives: To describe changes over time in self-protection strategies and health behavior during the first 8 months of the COVID-19 pandemic and to explore impact on self-reported disease activity and quality of life (=patient reported outcomes, PROs) in patients with inflammatory rheumatic disease (IRD) in DANBIO.

Methods: Patients were invited to answer two on-line questionnaires regarding current behavior and disease specific PROs: One in June 2020 (including also questions regarding behavior in March 2020), and one in November 2020. Responses were linked to PROs collected as part of routine care before March 2020 (=Before) in DANBIO. For each PRO, changes (=delta values) between the two timepoints were calculated in individual patients.

Results: Overall, 7,836 patients (22% of eligible patients) answered both questionnaires and were included (rheumatoid arthritis(RA): 5270(67%), psoriatic arthritis(PsA): 1217(15%), axial spondyloarthritis(AxSpA): 932(12%), other IRD: 417(5%). Patients reported highest levels of anxiety and self-protection in March with an improvement in June that was largely unchanged in November (Figure 1), e.g. proportions staying at home avoiding others as much as possible (completely or mostly agree) were 87%/49%/51% in March/June/November, respectively (Figure 1, Panel C).

Disease activity and proportions of patients reporting acceptable symptom state remained stable at the three time points (Table 1), with all median delta values being close to zero (not shown).

Conclusion: In this large cohort of patients with inflammatory rheumatic diseases followed in the nationwide DANBIO registry, COVID-19 related self-protection strategies were highest in March 2020, but more than half of the patients also reported self-isolation in June and November. We found no negative impact of the pandemic on patient-reported outcomes, which remained largely unchanged and were similar to before the pandemic. The latter finding probably reflects that few patients reduced or withdrew from treatment due to fear of COVID-19.¹

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Figure. Self-protection strategies and health behavior in March, June and November 2020

Table 1. Patient reported outcomes before March, in June and in November 2020 in patients with IRD. N=7,836

	Before*	June 2020	Nov 2020
Patient VAS global, mm	30 (12-58)	28 (10-54)	29 (10-55)
Patient VAS pain, mm	27 (11-51)	28 (11-51)	29 (11-52)
HAQ	0.50 (0.13-1.0)	0.50 (0.13-1.00)	0.50 (0.13-1.00)
EQ-5D	0.80 (0.72-0.86)	0.79 (0.71-0.86)	0.80 (0.71-0.86)
PASS, yes	73%	75%	76%

Numbers are median (IQR) unless otherwise stated*Latest registration in DANBIO before March 2020 Patient characteristics for RA/AxSpA/PsA/Other: female, %: 70/53/44/69. Age, years, median (IQR): 67 (59-74)/62 (54-69)/56 (46-65)/59 (50-68) Abbreviations: EQ-5D: Quality of life, 5 dimensions, HAQ: health assessment questionnaire, PASS: patient acceptable symptom state, VAS: visual analogue scale

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