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Background: Hyperuricemia has been reported to be significantly associated with risk of obesity. However, previous studies on the association between serum uric acid (SUA) and body mass index (BMI) yielded conflicting results.
Objectives: The present study examined the relationship between SUA and obesity among Chinese adults.
Methods: Data were collected at Guangdong Second Provincial General Hospital in Guangzhou City, China between January 2010 and December 2018. Participants with ≥2 medical checkup times were included in our analyses. Logistic regression model (LRM) was performed for data at baseline. For all participants, generalized estimation equation (GEE) model was used to assess the association between SUA and obesity, where the data were repeatedly measured over the nine-year study period. We calculated the cut-off values for SUA of obesity using the receiver operating characteristic curves (ROC) technique.
Results: A total of 15,959 participants (10,023 males and 5,936females) were included in this study, with an average age of 37.38 years (SD: 13.27) and average SUA of 367.05 μmol/L (SD: 97.97) at baseline, respectively. Finally, 1078 participants developed obesity over the 9-year period. The prevalence of obesity was approximately 14.2% for high SUA level. In logistic regression analysis at baseline, we observed a positive association between SUA and risk of obesity: OR=1.84 (95% CI: 1.77,1.90) for per-SD increase in SUA. Considering repeated measures over 9-year for all participants in the GEE model, the per-SD OR was 1.85 (95% CI:1.77,1.91) for SUA and the increased risk of obesity were greater for male (OR=1.45) and elderly participants (OR=1.01). The SUA cutoff points for risk of obesity using ROC curves were approximately consistent with the international standard.
Conclusion: Our study observed higher SUA level was associated with increased risk of obesity. More high-quality research is needed to further support these findings.

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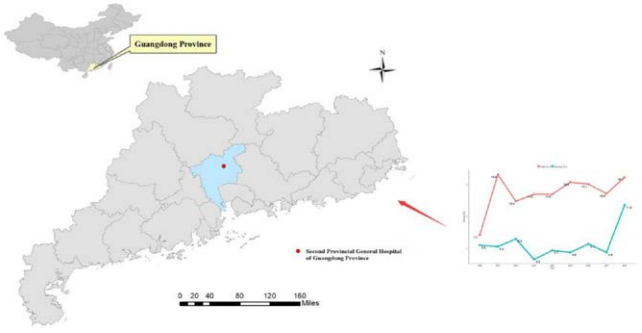

Figure 1. Location of Guangdong Second Provincial General Hospital (Guangzhou, Guangdong, China) and the prevalence of obesity by different years stratified by baseline SUA.

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POS1422 CORRELATES OF TESTING POSITIVE FOR SARS-COV-2 IN PATIENTS WITH RHEUMATIC AD MUSCULOSKELETAL DISEASES

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Background: Many studies on COVID-19 outcomes in patients with RMD have either restricted to COVID positive RMD patients or compared them to the general clinic population as a comparator. Given heterogeneity in behaviors and risks, clinical characteristics associated with a positive diagnosis among patients with RMD seeking testing for Sars-CoV-2 remain less well studied.
Objectives: Among patients with RMD receiving a Sars-CoV-2 PCR test, we aimed to identify RMD-related factors associated with a positive test result.
Methods: Among patients seen at least once in the University of Washington (UW) rheumatology clinics between March 2018 to March 2020, we reviewed electronic medical records to identify patients undergoing Sars-CoV-2 PCR testing from March 1 through October 31, 2020. Patients with RMD were categorized into two groups: those who tested positive for Sars-CoV-2 and those who tested negative. We randomly selected patients from the negative group in a 2:1 ratio for further data abstraction. Student's *t*-test and Chi-squared tests were used to compare continuous and categorical variables, respectively, between the groups. To determine the correlates of testing positive for Sars-CoV-2, specifically RMD medication use and disease activity, we constructed different multivariable logistic regression models adjusted for age, sex, race/ethnicity, presence of comorbidities, body mass index, and smoking.
Results: A total of 2768 RMD patients underwent SARS-CoV-2 PCR testing within the UW system, of whom 43 (1.5%) were positive at least once. Three patients with incomplete information were excluded. Patients who tested positive had higher prevalence of end stage renal disease (ESRD)/chronic kidney disease (CKD) (24% versus 11%), had higher rates of active disease (24% versus 20%), were older (>55 years) (mean age 57.3 versus 54.8 years), male (63% versus 55%), non-white race/ethnicity (32% versus 26%), and higher prevalence of multiple comorbidities (42% versus 31%) (Table 1). In the multivariable models, neither RMD medication use (versus no use, Table 1) nor high disease activity (vs low disease activity/remission) were statistically significantly associated with COVID-19 positivity. Among the 41 COVID-19 positive patients, a majority recovered without specific treatments, although approximately one third of the positive patients were hospitalized and three deaths were observed.
Conclusion: In this study, patients who tested positive did not differ in many ways from those who tested negative.

Table 1. Baseline characteristics of the patients prior to COVID testing

Variables	All (N=126)	COVID Positive (N=41)	COVID Negative (N=85)	P value
Age in years – mean (SD)	55.6 (15.3)	57.3 (16.3)	54.8 (14.9)	0.40
Sex				0.39
Male	73 (57.9)	26 (63.4)	47 (55.3)	
Female	53 (42.1)	15 (36.6)	38 (44.7)	
Race				0.39
White	89 (71.2)	26 (63.4)	63 (74.1)	
Other race	35 (28.2)	13 (31.7)	22 (25.9)	
Missing	2 (1.6)	2 (4.9)	0 (0.0)	
Rheumatic disease				0.64
OA/Crystal/Fibromyalgia	37 (29.4)	11 (26.8)	26 (30.6)	
RA/SpA	32 (25.4)	9 (22.0)	23 (27.1)	
All others	57 (45.2)	21 (51.2)	36 (42.3)	
Rheumatic disease activity				0.57
Active	27 (21.4)	10 (24.4)	17 (20.0)	
Not active	99 (78.6)	31 (75.6)	68 (80.0)	
Co-morbidities				
Diabetes mellitus (%)	25 (19.8)	9 (22.0)	16 (18.8)	0.68
Hypertension	48 (38.1)	20 (48.8)	28 (32.9)	0.09
Cardiovascular disease	23 (18.3)	9 (22.0)	14 (16.5)	0.46
Lung disease	25 (19.8)	10 (24.4)	15 (17.7)	0.37
Cancer	10 (7.9)	3 (7.3)	7 (8.2)	0.86
ESRD/CKD	19 (15.1)	10 (24.4)	9 (10.6)	**0.04***

BMI: Body mass index; SD: Standard deviation; OA: Osteoarthritis; Crystal: Crystalline diseases; RA: Rheumatoid arthritis; SpA: Spondyloarthritis

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POS1423 LIFESTYLE HABITS IN PATIENTS WITH RHEUMATOID ARTHRITIS – A CROSS SECTIONAL STUDY ON TWO SCANDINAVIAN COHORTS

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Background: In people with rheumatoid arthritis (RA), modifiable lifestyle factors such as smoking, being overweight/obese, alcohol overuse and physical inactivity may not only affect treatment response and quality of life, but can also increase the risk for cardio-vascular diseases and other comorbidities (1,2). Evidence and EULAR guidelines (3) support lifestyle changes in patients with RA. If a patient need to change several habits, the challenge may seem overwhelming and substantial support will be needed. There is little information concerning the prevalence of a combined number of unhealthy lifestyle (UL) factors in people with RA.
Objectives: I) To study the prevalence of unhealthy lifestyle factors in two Scandinavian RA cohorts. II) To study the association between disease impact and two or more unhealthy lifestyle factors.
Methods: Patients diagnosed with RA who participated in a cardiovascular screening consultation at a specialist clinic during 2016-2018 and responded to four lifestyle questions, constituted the Danish cohort (data retrieved from the national registry DANBIO). Patients with RA belonging to the BARFOT cohort, and who in a 2017 survey responded to four lifestyle questions, constituted the Swedish cohort. Lifestyle information was dichotomized as present tobacco use or not, BMI <25 kg/m2 vs. ≥25 kg/m2, alcohol overuse or not, and health enhancing physical activity (≥ 150 minutes/week) or less. The combined number of UL factors (0, 1, 2, 3, 4) were calculated. Crude logistic regression analyses were performed to determine the association between disease impact and two or more UL factors (controlled for age, gender and disease duration). Independent factors (disease impact) were pain (NRS 0-10, best to worst), fatigue (NRS 0-10, best to worst), function (HAQ, 0-3, best to worst) and quality of life (EQ-5D-3L 0-1, worst to best).
Results: The 566 included Danish patients had a mean age of 61.82 (SD 11.13) years, a disease duration of mean 12.40 (SD 10.95) years, and 72% were women. The 995 Swedish patients had a mean age of 66.38 (SD 12.90) years, a disease duration of mean 15.55 (SD 3.85) years, and 72% were women. 95% of the Danish patients and 82% of the Swedish patients reported at least one UL factor, while 66% and 47% respectively reported two or more (Figure 1). The most common ones were overweight/obesity and physical inactivity in both cohorts. Male gender OR 1.86 95% CI [1.21-2.85] and shorter disease duration OR 0.97 95% CI [0.95-0.99] were associated with two or more UL factors in the Danish cohort. In the Swedish cohort, male gender OR 1.42 95% CI [1.07 – 1.89], worse pain OR 1.10 95% CI [1.04 – 1.15], fatigue OR 1.09 95% CI [1.04 – 1.15], function OR 1.64 95% CI [1.28 – 2.10], and worse quality of life OR 0.35 95% CI [0.20 – 0.60] were associated with two or more UL factors.
Conclusion: Every other patient with RA had two or more UL factors in both the Danish and Swedish cohort, and more often they were men. The combined number of UL factors was not necessarily associated with disease impact. The findings are important for health professionals working with lifestyle interventions in patients with RA.

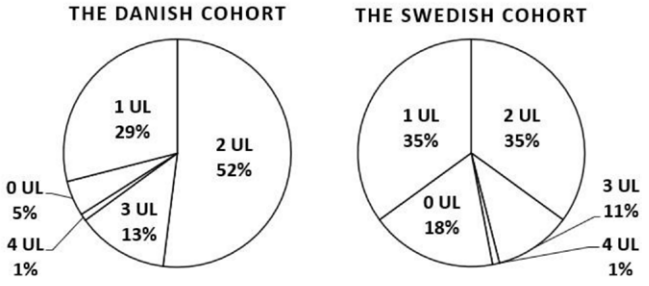

Figure 1. The combined number of unhealthy lifestyle (UL) factors in two Scandinavian RA cohorts.

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POS1424 PREGNANCY COURSE IN A COHORT OF WOMEN WITH MYOSITIS - RESULTS FROM REVNATUS

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Background: Myositis is a rare autoimmune disease characterized by proximal and symmetrical muscle weakness and inflammatory infiltrates on muscle biopsy, and may affect women in reproductive age. Only few reports exist on pregnancy outcomes in women with myositis. Well-controlled disease at time of conception seems to give better outcome for the mother and the fetus (1). Inflammatory active disease before and during pregnancy has been associated with preterm birth and infant small for gestational age (1).
Objectives: To describe the course of pregnancy in patients with myositis.
Methods: We prospectively collected data on pregnancy in women with myositis in the nationwide Norwegian quality registry - RevNatus. ICD-10 codes: ICD-10 M33.0 (5), M33.1 (2), M33.2 (1), M33.9 (3). Eleven pregnancies in ten women with a known pregnancy outcome from 2016 – 2020 were included.
Results: Median disease duration was 10 years (range 3-26), and median age at conception was 29 years (range 25-43). Five women had juvenile myositis. Two pregnancies ended in spontaneous abortions, one in 1st trimester and one in 2nd trimester. Nine pregnancies ended with live birth at median pregnancy week 39 (range 35-41) and a median birth weight of 3355 gram (range 2580-4750). None of the women experienced preeclampsia or HELLP. Three women was positive for ANA. Median CRP in second trimester was three (range 0-7). Among nine women with live births, seven were in remission, and two women had persistent disease in second trimester, defined by rheumatologist. Seven women used DMARDs in pregnancy, and two women used prednisolone 5 mg throughout pregnancy.

Patient #	Pregnancy #	Maternal age at conception	Disease duration years	Medication during pregnancy	Disease activity 2nd trimester	Gestational age at delivery	Infant birth weight (gram)	Delivery mode
A	1	29	25	none	Remission	38	3355	Standard vaginal delivery
B	2	34	7	azathioprine	Persistent	39	3725	Standard vaginal delivery
C	3	29	15	azathioprine				Spontaneous abortion week 7
D	4	35	3	ciclosporin prednisolone 5mg	Persistent	40	3000	Standard vaginal delivery
E	5	28	13	none	Remission	37	2765	Operational vaginal delivery
F	6	25	10	azathioprine hydroxy-chloroquine	Remission	41	4085	Standard vaginal delivery
F	7	27	13	azathioprine hydroxy-chloroquine	Remission	41	3815	Standard vaginal delivery
G	8	36	13	prednisolone 5mg				Spontaneous abortion > week 12
H	9	29	9	azathioprine	Remission	35	2580	Standard vaginal delivery
I	10	43	5	azathioprine prednisolone 5mg	Remission	37	3140	Sectio
J	11	36	28	none	Remission	41	4750	Acute sectio

Conclusion: We did not observe disease flare during pregnancy and no serious adverse outcomes in the pregnancies ending with live births. However, data are sparse, and larger cohorts are necessary to evaluate possible risk factors.