

**Background:** The COVID-19 pandemic has generated uncertainties and concerns along with expectations and hopes that may be of relevance to patients with rheumatic diseases.

**Objectives:** The aim of this study is to assess changes in the fears and hopes of patients with rheumatic diseases throughout the two phases of REUMAVID.

**Methods:** REUMAVID is an international cross-sectional study collecting data through an online survey in seven European countries led by the Health & Territory Research group of the University of Seville, together with a multidisciplinary team including patient representatives, rheumatologists, and health researchers. Data were collected in two phases: Phase 1 (P1) between April-July 2020 and Phase 2 (P2) between February-April 2021. Demographics, health behaviours, employment status, access to healthcare services, disease characteristics, WHO-5 Well-Being Index and Hospital Anxiety and Depression Scale (HADS). Participants rated a series of fears (infection, medication consequences, lack of medication, impact on healthcare, lost job, civil disorder) on a scale from zero ("no concern at all") to five ("extremely concerned") and hopes (treatment/vaccine availability, going outside, travel, economic situation, treatment continuation, health status) on a scale from zero ("no hopeful at all") to five ("extremely hopeful"). Descriptive analysis and Mann-Whitney test were used to explore fears and hopes in both phases of REUMAVID.

**Results:** A total of 3,802 participants were recruited across both phases in REUMAVID with comparable demographic characteristics: mean age 52.6 (P1) vs. 55.0 years (P2), 80.2% female (P1) vs. 83.7% (P2), 69.6% married (P1) vs. 68.3% (P2), and 48.6% university educated (P1) vs. 47.8% (P2). Most prevalent RMD was axial spondyloarthritis in P1 (37.2%), and rheumatoid arthritis in P2 (53.1%). In P1 and P2 the major concern was the impact on healthcare in the future (3.1 and 3.2 out of 5,  $p=0.051$ ). Compared to P1, patients in P2 had less fears about RMD medications not reaching the country (2.4 vs. 1.9,  $p<0.001$ ), civil disorders (2.0 vs. 1.8,  $p=0.001$ ), or losing their jobs (1.4 vs. 1.5,  $p=0.003$ ). Comparing hopes with P1, patients in P2 had greater hopes about availability of treatments or vaccines suitable for COVID-19 (3.2 vs. 3.9,  $p<0.001$ ), to be able to go out as before the pandemic (3.1 vs. 3.5,  $p<0.001$ ), to be able to travel as before the pandemic (2.8 vs. 3.3,  $p<0.001$ ), maintain and even improve the current economic situation after the pandemic (2.6 vs. 3.0,  $p<0.001$ ), and to be able to continue their treatment as usual (3.8 vs. 3.8,  $p=0.049$ ; Table 1)

**Table 1. Bivariate analysis of patients' fears and hopes in both phases of REUMAVID (N= 3,802, unless specify)**

	Mean $\pm$ SD		P-value
	First Phase n= 1,800	Second phase n= 2,002	
<b>Fears</b>			
Impact on healthcare in the future, n= 3,653	3.1 $\pm$ 1.6	3.2 $\pm$ 1.6	0.051
Treatment taken could make you more likely to get serious illness from COVID-19 infection, n= 3,651	2.8 $\pm$ 1.8	2.9 $\pm$ 1.8	0.160
More likely to be infected due to the condition, n= 3,649	2.8 $\pm$ 1.7	2.9 $\pm$ 1.7	<b>0.040</b>
Lack of medication, n= 3,656	2.4 $\pm$ 1.8	1.9 $\pm$ 1.8	<b>&lt;0.001</b>
Civil disorder, n= 3,634	2.0 $\pm$ 1.6	1.8 $\pm$ 1.7	<b>0.001</b>
Lost job, n= 3,566	1.5 $\pm$ 1.9	1.4 $\pm$ 1.9	<b>0.003</b>
<b>Hopes</b>			
Availability of a treatment or vaccine suitable for COVID-19, n= 3,318	3.2 $\pm$ 1.5	3.9 $\pm$ 1.3	<b>&lt;0.001*</b>
Continue treatment as usual, n= 3,306	3.7 $\pm$ 1.4	3.8 $\pm$ 1.3	<b>0.049*</b>
Go out as before the COVID-19 pandemic, n= 3,318	3.1 $\pm$ 1.5	3.5 $\pm$ 1.4	<b>&lt;0.001*</b>
Don't get infected with COVID-19 and continue in the same health, n= 3,280	3.5 $\pm$ 1.5	3.5 $\pm$ 1.5	0.696
Travel as before the COVID-19 pandemic, n= 3,311	2.8 $\pm$ 1.6	3.3 $\pm$ 1.5	<b>&lt;0.001*</b>
Maintain or improve economic situation after the COVID-19 pandemic, n= 3,310	2.6 $\pm$ 1.7	3.0 $\pm$ 1.7	<b>&lt;0.001*</b>

**Conclusion:** During the first phase of REUMAVID at the beginning of the pandemic, patients with RMDs were more fearful and less hopeful compared to the second phase. These fears were notable in terms of lack of medication for their RMD, while during the second phase, patients were hopeful of a treatment or vaccine against COVID-19, and of being able to go out and travel as before.

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AB1122

### HAVE TREATMENTS FOR AUTOIMMUNE DISEASES WORSENE THE PROGNOSIS OF COVID-19 INFECTION?

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**Background:** According to the literature patients with autoimmune diseases (AID) have a high risk of develop serious infections due to the use of immunosuppressive treatment. In published clinical trials neither the risk nor the severity of COVID-19 infection in patients with AID seem to be higher than in the general population.

**Objectives:** The objective of our study is to analyse the clinical course in patients with AID undergoing immunosuppressive treatments and infected by COVID-19.

**Methods:** Patients were included after reviewing four rheumatology outpatient clinics from Ciudad Real University General Hospital between November 2020 and February 2021. The inclusion criteria were being older than 18 years and being positive for COVID-19 by epidemiological (positive molecular and/or antigen test) or clinical criteria (symptoms compatible between March and May 2020). We collected demographic data, cardiovascular comorbidities, AID, treatment with synthetic or biological DMARDs, immunomodulators or glucocorticoids; and progression of infection COVID-19.

**Results:** We found a total of 210 patients that had suffered from SARS-COV2 of which 95 patients were affected by AID. The most prevalent pathology in our sample was spondylarthritis followed by arthritis rheumatoid and systemic lupus erythematosus of which 81.82%, 100% and one 92.86% respectively were receiving treatment to control the disease. Among the 95 patients suffering from COVID and AID a small number of patients did not follow any immunosuppressive treatment regimen (n=25) but most of our patients were undergoing immunosuppressors (n=70); the most used drugs were prednisone and methotrexate. No statistically significant differences were found between the treated versus untreated group in the studied variables, being similar the results relative to mean age, sex, presence of cardiovascular risk factors, absence of symptoms, number of admissions to hospital ward or in Intensive Care Unit, or complications during COVID-19 infection (Table 1).

**Table 1. Baseline characteristics of patient with AID undergoing or not immunosuppressors.**

	Treated n=70 (73,68%)	Untreated n=25 (26,32%)	p
<b>Medium age (SD)</b>	51,74 (+/- 2,18)	55,74 (+/-3,36)	0,467
<b>Female sex, n (%)</b>	49 (70%)	17 (68%)	0,852
<b>HTA, n (%)</b>	22 (31,4%)	5 (20%)	0,277
<b>DM, n (%)</b>	8 (11,4%)	2 (8%)	0,632
<b>DL, n (%)</b>	13 (18,6%)	1 (4%)	0,078
<b>Tobacco, n (%)</b>	7 (10%)	3 (12%)	0,78
<b>Asymptomatic, n (%)</b>	13 (18,6%)	4 (16%)	0,773
<b>Admitted, n (%)</b>	11 (15,7%)	5 (20%)	0,623
<b>ICU, n (%)</b>	2 (2,9%)	0 (0%)	0,393
<b>ARDS, n (%)</b>	7 (10%)	2 (8%)	0,769
<b>Overinfection, n (%)</b>	4 (5,7%)	0 (0%)	0,222
<b>Thrombosis, n (%)</b>	1 (1,4%)	0(0%)	0,548
<b>Death, n (%)</b>	6 (8,6%)	2 (8%)	0,930

SD, standard deviation; n, absolute numbers; %, percentages; p, p-value; AID, autoimmune diseases; HTA, arterial hypertension; DM, diabetes mellitus; DL, dyslipidaemia; ICU: intensive care unit; ARDS: Acute respiratory distress syndrome

**Conclusion:** Patients treated with synthetic or biologicals DMARDs, immunomodulators or glucocorticoids do not seem have a higher rate of death or hospital admission respect to patients diagnosed of AID without such treatments.

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AB1123

#### EFFICACY AND SAFETY OF SARS-COV-2 THIRD VACCINE IN PATIENTS WITH RHEUMATOID ARTHRITIS WHO DID NOT RESPOND AFTER PRIMARY TWO-DOSE REGIMEN

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**Background:** Vaccination for COVID-19 is an essential tool to fight the pandemic. Evidence suggests that patients with immune mediated inflammatory diseases (IMIDs) have less response. The application of a booster shot is a strategy that has been implemented in this population, however there is scarce information about its efficacy.

**Objectives:** To assess the humoral and cellular immune response after a third dose of SARS-CoV-2 vaccine in patients with rheumatoid arthritis (RA) with undetectable antibodies titles after primary regimen of two doses.

**Methods:** Observational study. Patients with RA (ACR/EULAR 2010 criteria) from two rheumatology centers, ≥18 years old, with no seroconversion after two doses of SARS-CoV-2 vaccine, who received a third dose of either mRNA or vector-based vaccines (BNT162b2 or ChAdOx1 nCoV-19) were included. Anti-SARS-CoV-2 IgG antibodies, neutralising activity and T cell responses were assessed between 21 and 40 days after the third dose. Sociodemographic data, comorbidities, treatment, vaccine applied and the presence of adverse events (AE) were recorded. Statistical analysis: descriptive analysis. Chi<sup>2</sup> or Fischer test and T test.

**Results:** A total of 21 non-responder patients were included, all of them females with a mean age of 63.7 years (SD 11,6) and mean disease duration of 15.8 years (SD 8). Most of them (81%) reported comorbidities, being the most frequent arterial hypertension, obesity and dyslipidemia. At vaccination time, 6 (28.6%) were receiving glucocorticoids, 3 of them ≥10 mg/day, 17 c-DMARDs (methotrexate 57.1%) and 18 (85.1%) b-DMARDs, 6 abatacept (ABT) and 4 rituximab (RTX). Regarding the primary vaccination regimen, 13 (61.9%) received two doses of BBIBP-CorV, 3 (14.3%) Gam-COVID-Vac, 3 (14.3%) ChAdOx1 nCoV-19 and 2 (9.5%) a mix regimen of Gam-COVID-Vac/mRNA-1273. The majority (95.2%) received BNT162b2 vaccine and only one of them ChAdOx1 nCoV-19, with a mean time between the second and third dose of 151,4 days (SD 46,4). After the third dose, 90.5% of the patients presented detectable anti-SARS-CoV-2 IgG and 76.2% presented neutralizing activity. The median of neutralizing antibodies titers was 1/12 (IQR 1/7-1/48). Both patients who did not present detectable antibodies were obese, recieved BBIBP-CorV during the primary regimen and BNT162b2 as the third dose, one of them was

taking methotrexate and ABT and the other one RTX. Compared to other treatments, ABT and RTX was associated with no neutralizing activity in 4 (80%) patients and lower titers of neutralizing antibodies [median 1/3 (IQR 0-1/20) vs median 1/8 (IQR 1/4-1/128), p=0.197]. A T-cell response was present in 41.2% of all patients after the second dose, increasing to 75% after the third dose. The use of ABT was associated with a lower frequency of T-cell response (80% vs 20%, p=0.014). Sixteen (76.1%) patients reported at least one AE, 66.7% injection site reaction and 25% flu-like syndrome.

**Conclusion:** In this RA cohort who failed to seroconvert after two doses of SARS-CoV-2 vaccine, 90.5% presented detectable anti-SARS-CoV-2 IgG and 75% T-cell response after a third dose. The use of ABT was associated with a lower frequency of T-cell response. This data highlights the importance of a third vaccine in this group of patients.

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#### AB1124 IMPACT OF COVID-19 ON PATIENTS WITH RHEUMATIC DISEASES IN A SECOND LEVEL HOSPITAL

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**Background:** Covid-19 has generated a change in society and in people's daily lives. Patients with rheumatic diseases have suffered physically and mentally, both due to mobility restrictions and to the impact on personal, family, work and social life that COVID-19 has brought [1-4].

**Objectives:** To examine the impact of the pandemic COVID-19 on patients with rheumatic diseases.

**Methods:** Cross-sectional descriptive study in patients with rheumatic diseases. Data collection was done through an online questionnaire to assess the impact of COVID-19, adapted for this purpose and made up of 5 scales of the 9 of the Coronavirus Psychological Impact Questionnaire [3]. This instrument is divided into two parts: 1) sociodemographic variables and 2) Experience with Coronavirus (ECOV); Preventive Behaviour Use (UCP); Fear against coronavirus Scale (EMC); Interference with the coronavirus Scale (EIC) and positive psychological aspects (EEPA). This questionnaire was accessed through a QR code (provided to all patients both in consultations and in the day hospital) by the rheumatology team for two weeks between November-December 2021. In addition, this code was sent by the nurse via WhatsApp to all patients registered in our database. Statistical analysis: SPSS 24.0 and Pearson Chi-square, T-Student and ANOVA tests.

**Results:** n=362 online surveys; 72% women with a mean age of 63 years ± 14.21 (22-70 years). The most frequent rheumatic diseases were Rheumatoid Arthritis (50%) and Spondyloarthritis (31%). 83.2% had only one rheumatic disease (mean 1.26 ± 0.66) and 90% self-completed survey. In experience with the Coronavirus (ECOV), 89% patients had not had symptoms or confirmed diagnosis of coronavirus, 98% were not hospitalized, 91% had confidence in our health system; Regarding the Use of Preventive Behaviors (UCP), 98% used a mask outside the house and 78.5% kept a safe distance; In relation to the most common fears associated with the Coronavirus (EMC), 40% were a little afraid of getting infected (34% quite a bit) and 50% were almost nothing afraid of losing their job; Regarding the interference that the coronavirus has caused in these patients (EIC), 73% had not had serious work problems and 74% had not had difficulties in their studies. In reference to the positive psychological aspects (EEPA), 48% had discovered new hobbies, 19% had become more religious, 83% had learned to value personal relationships more. It was significant that women were more afraid of infecting themselves or a loved one or family member and/or dying from coronavirus than men (p=0.02; p=0.011 and p=0.002 respectively). Regarding age, younger patients (45y) were more concerned that they could lose their job compared to older patients (61y), p=0.

**Conclusion:** The COVID-19 disease has impacted patients with rheumatic diseases. In our sample, women have been more concerned about being infected and dying themselves and their closest relatives/friends, and younger people more concerned about job loss and economic income than older people. It has to be considered that the majority of this population has not been hospitalized or diagnosed with COVID-19 and also has great confidence in our health care system. More studies are necessary to examine the impact of the COVID-19 after the 6<sup>th</sup> wave of the pandemic.

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