Objectives: Our purposes were to describe and compare the incidence of OI in RA treated by non-TNF-targeted biologics.
Methods: We performed a retrospective longitudinal observational study from 2007 to 2017. We included subjects followed in our outpatient clinic, diagnosed with RA according to ACR criteria, whom started treatment with a bDMARD [rituximab (RTX), abatacept (ABA), or tocilizumab (TCZ)]. According to the microbiologist criteria, we consider OI when there was a positive culture (for Virus, Fungus, bacterial or parasitary) or compatible symptoms that responded to specific treatment. Severe IO was considered if required hospitalisation. We also collected secondary variables: sociodemographic, clinical and other treatments. We used survival techniques to estimate the incidence of OI, expressed per 1000 patient-year [CI 95%]. Exposure time was defined from the start date of each bDMARDs until the development of an OI, discontinuation, loss of follow up or end of study (01/02/2017).
Results: We analysed a total of 164 patients with 219 different courses of bDMARDs treatment. Of these, 76% were women with a mean age at first bDMARD of 61.4±15 years. Rheumatoid factor was positive in 73.6%. Main comorbidities were: Hypercholesterolemia (53.3%), Hypertension (53.2%), Depression (25%), Diabetes (15%), and Ischaemic Heart Disease (9.8%). VSG mean was 38±28, and the mean WBC count was 7.8±2.7. The median time from onset of RA until onset of bDMARD was 2.8 years [0.8–6.2]. Of these, 132 were on RTX, 47 were on ABA and 40 were on TCZ. There were 12 OI (9 with RTX, 2 with ABA and 1 with TCZ). RTX have 2 Fungus (Candida krusei and Klebsiella), and 7 Virus (4 Herpes Zoster, 1 virus B reactivation, 1 virus C reactivation). OI for ABA was 2 Virus (1 Herpes Zoster, 1 virus B reactivation), while we found one virus OI with TCZ Fungus (Herpes Zoster). There were no bacterial or parasitary OI. Global incidence rate of OI was 30.49 [17.3–53.6]. The incidence of OI was 38.92 [20.2–74.8] for RTX, followed by ABA with 21.61 [5.4–86.4], and TZC with 14.3 [2–101.6]. We found 3 severe OI (2 fungus infections, 1 virus B reactivation). The incidence of severe OI was 7.62 [2.4–23.6], all of them requiring hospitalisation with no deaths. Severe OI have a higher incidence for men 21.1 [5.2–84.2] than women 3.3 [0.4–23.7]. All patients with severe OI were taking corticosteroids, and at least one synthetic DMARD. TCZ did not have any severe OI, and the incidence of severe OI was 10.8 [1.5–76.7] for ABA, followed by RTX with 8.6 [2.1–34.5].
Conclusions: The incidence of OI in three non-TNF-targeted biologics in real life conditions is described. Incidence found was near 31 cases per 1000 patients - year. Virus and fungus are the OI more frequents in these bDMARDs. Doctors using bDMARDs should be concerned about this problem and be aware for the detection and management of OI.
Disclosure of Interest: None declared
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AB0452 BIOLOGICAL THERAPY ADVERSE EVENTS IN BIOBADAGUAY REGISTRY

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Background: BIOBADAGUAY is the Paraguayan/Uruguayan registry of adverse events (AE) in patients with inflammatory rheumatic conditions under biologic therapy (BT)
Objectives: To determine the frequency and severity of AE in patients under BT from the BIOBADAGUAY registry
Methods: Prospective, observational study of undetermined length to verify the efficacy, safety and survival of the BT. The methodology applied is available at https//biobadaguay.ser.es. For the present study epidemiological and clinical variables, BT, type and severity of AE were analysed. The incidence rate (IR) was calculated as the total number of adverse events per 1000 patients/year and the incidence rate ratio (IRR) was analysed using the Poisson regression model.
Results: 778 BT were analysed (56.6% adalimumab, 23.7% etanercept, 9.6% tocilizumab, 5.7% rituximab, 3.5%infliximabm, 0.5%golimumab, 0.38%infliximab biosimilar, 0.13% abatacept). In these, 330 AE were observed, 256 (77.6%) mild and 74 (24.4%) severe. The global IR of AE was 143.9 (95% CI,128.8–160.8) and 32.6 (95% CI,25.3–40.5), 111.6 (95% CI, 98.4–126.2) for severe and mild respectively. Infection was the most frequent AE in 175 (53.0%) and 39 (22.3%) of them were severe. Infection´s IR was 76.3 (95% CI,65.4–88.5), 59.3 (95% CI,49.76–70.2) and 17.0 (95% CI,12.1–23.3) for global, severe and mild respectively. Out of the 39 severe AE, respiratory infections were the most frequent in 43.6% of the cases. 5 tuberculosis, 6 malignancies and 6 deaths were observed.
When analysing the IR according to diagnosis, Idiopathic Juvenile Arthritis (JIA) was associated with a higher IR of global AE when comparing to the other diagnosis (IRR=2.3 [95% CI,1.6–3.4] p=4.27 × 10–6). RA diagnosis was significantly associated with a higher risk of severe AE (IRR=2.20 [95% CI,1.2–4.1] p=1.17 × 10–2). tocilizumab was significantly associated with a higher incidence of global AE, (IRR=2.69 [95% CI, 1.90–3.82] p=3.13 × 10–8) and severe ones (IRR=3.34 [95% CI,1.81–6.1] p=1.10 × 10–4). Adalimumab was significantly associated with a lower rate of global AE(IRR=0.6 [95% CI, 0.4–0.8] p=1.86 × 10–4).

Abstract AB0452 – Table 1. Incidence rate and incidence rate ratio of adverse events according to diagnosis and biological therapy

Variable	IR	IRR	*P* value
Psoriasic Arthritis	88 [52,2–139,1]	0,59 [0,33–1,04]	7,03e-02
Ankylosis Spondylitis	102,3 [68,0–147,8]	0,68 [0,40–1,17]	1,63e-01
Rheumatoid Arthritis	134,2 [115,6–155,0]	0,85 [0,62–1,15]	2,81e-01
Idiopatic Juvenile Arhritis	286,4 [229,4–353,2]	2,34 [1,63–3,37]	4,27e-06
Adalimumab	113,5 [96,9–132,1]	0,57 [0,43–0,77]	1,86e-04
Etanercept	190,4 [152,7–234,6]	1,44 [1,03–2,02]	3,30e-02
Rituximab	66,9 [26,9–137,8]	0,45 [0,18–1,13]	8,93e-02
Infliximab	75,0 [24,3–175,0]	0,51 [0,21–1,23]	1,35e-01
Tocilizumab	340,0 [261,8–434,2]	2,69 [1,90–3,82]	3,13e-08

IR: incidence, IRR: incidence ratio (per 1000 patients year)

Conclusions: AE were mild in general and infections were the most frequent. In the present study, it was found that JIA and treatment with tocilizumab presented a higher IRR of AE while RA presented a higher rate of severe AE.
Disclosure of Interest: None declared
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AB0453 BIOLOGICAL THERAPIES RETENTION RATE IN TWO SUDAMERICAN COUNTRIES. DATA FROM BIOBADAGUAY REGISTRY

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Background: The retention rates (RR) of biological therapies (BT) have been extensively studied in European countries and the United States, but there is a lack of information about them in emerging populations.
Objectives: To analyse BT retention rates and variables associated to them at the BIOBADAGUAY registry
Methods: Patients with a chronic inflammatory arthritis enrolled in the Paraguayan-Uruguayan biological register (BIOBADAGUAY) between2015 and 2017 where included in the study. Phase I of the study was focused in the global RR analysis and association with clinical and epidemiological variables. In phase II we analysed BT retention rate according to different discontinuation motives and association with clinical and epidemiological variables. Survival analysis was performed using Kaplan-Meier estimators and proportional hazard regression models
Results: A total of 778 BTs where included in the study (etanercept n=184, adalimumab n=440, rituximab n=44, infliximab n=27, tocilizumab n=75, and others n=8). The underlying diagnosis associated to these BTs were rheumatoid arthritis (RA;58.2%), juvenile arthritis (JIA; 14.2%), ankylosing spondylitis (SA; 12.5%) and psoriatic arthritis (PA; 8,0%).
In phase I we found that mean survival times were 322 (±17.9), 315 (±22.32), 289 (±8.52) and 233 (±16.69) weeks for AS, PA, RA and JIA respectively. The survival association analysis has shown that JIA diagnosis (p=2.26 × 10–4, HR=1.80 [95%CI, 1.32–2.46]), corticosteroids (p=1.54 × 10–2, HR=1.38 [95% CI, 1.06–1.79]), and previous BT (p=3.32 × 10–2, HR=1.43 [95% CI, 1.03–1.98]) were variables significantly associated with a lower BT retention.
In phase II, we stratified the survival analysis by cause of discontinuation. We found that corticoids (p=9.48 × 10–4 HR=2.02 [95% CI, 1.33–3.06]), female gender (p=4.36 × 10–2, HR=1.66 [95% CI, 1.01–2.72]) and previous BT (p=2.56 × 10–2, HR=1.72 [95% CI, 1.07–2.78]) were associated with lower BT retention due to inefficacy. When we analysed withdrawn according to adverse events, we found that RA (p=02,80 × 10–2, HR=1,83[IC 95% 1,07–3,15]), previous BT (p=4,83 × 10–2, HR=1,76[IC 95% 1,00–3,09]) and age (p=7,14 × 10–5, HR=1,05 [IC 95% 1,02–1,05]) were significantly associated with therapy discontinuation. In the group of treatments with discontinuation due to remission, we found that JIA diagnosis (p=7,93 × 10–8, HR=30,58 [IC 95% 8,77–106,71]), age (p=7,83 × 10–6,

HR 0,83[IC 95% 0,76–0,90]) and gender (p=4,36 × 10–2, HR 1,66[IC 95% 1,01–2,72]) were associated to discontinuation due to remission.
Conclusions: Our results show that different sets of clinical and demographical variables are significantly associated to biological therapy survival depending on the discontinuation cause.
Disclosure of Interest: None declared
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AB0454 BIOLOGICAL THERAPIES SURVIVAL IN ADULTS AND JUVENILE ONSET ARTHRITIS. DATA FROM BIOBADAGUAY REGISTRY

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Background: Survival of biological therapies (BT) may be considered as an indicator of efficacy and safety of the drug. BT survival have been studied mainly in adult's patients, whereas only few studies have been focused on paediatric population to date.
Objectives: To analyse and compare BT survival in adults and juvenile onset arthritis patients from BIOBADAGUAY registry.
Methods: Patients with a chronic inflammatory arthritis enrolled in the Paraguayan-Uruguayan biological register (BIOBADAGUAY) between2015 and 2017 where included. For this study, patients were divided in two groups: 1. Adults with anychronic inflammatory arthritis and 2. Patients with juvenile idiopathic arthritis (JIA). To compare the groups according to BT, only the first biotherapy was considered.
Survival analysis was performed using Kaplan-Meier estimators and proportional hazard regression model. First we analysed global BT survival in both groups; secondly we compare BT survival between groups.
Results: From 778 BTs(etanercept n=184, adalimumab n=440, rituximab n=44, infliximab n=27, tocilizumab n=75, and others n=8), 556 where identify as first line BTs. Of these, only adalimumab and etanercept were included in the study due to sufficient number prescriptions in both groups for the analysis.
We found a mean survival times for adults of 289 (±20.7 SD) weeks for etanercept and 287 (±8.6 SD) weeks for adalimumab. In JIA patients the mean survival were 243 (±26.0 SD) and 216 (±24.0 SD) weeks for etanercept and adalimumab respectively
When comparing survival between groups, we found that JIA presented more discontinuation of BT when compare with adult patients (p=4.4 × 10–4, HR=0.51 [95%CI, 0.35–0.73]). Similar results were observed when analysing only etanercept (p=3.92 × 10–2; HR=0.50 [95% CI, 0.26–0.97]) or adalimumab (p=1.20 × 10–3; HR=0.48 [95% CI, 0.30–0.75])treatments. Then we analysed withdrawn motive in JIA patients, and found that remission was the principal reason of discontinuation in this group of patients.
Finally, we stratified survival analysis by discontinuation according to adverse events, and found that JIA group presented a lower risk of discontinuation due to adverse events than adults (p=1.96 × 10–1; HR=2.18 [95% CI, 0.67–7.07]).
Conclusions: In our study we have analysed mean BT survival between adults and JIA at the BIOBADAGUAY registry. When we compared both groups of patients it was observed that JIA patients presented more BT discontinuation but due to remission.
Disclosure of Interest: None declared
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AB0455 IMPACT OF ONE-YEAR TREATMENT WITH BIOTECHNOLOGIC DRUGS ON WORK DISABILITY AND ACTIVITY IMPAIRMENT IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Disease activity significantly impacts on work ability of patients with Rheumatoid Arthritis (RA). Biologic agents can control disease activity, but their effects on productivity outcomes were not adequately investigated in Italian population.
Objectives: Aim of the study was to evaluate the impact of biologic therapy on work productivity outcomes in a cohort of biologic-naïve patients with active RA from northern Italy.
Methods: This is a multicentre prospective study on patients with active RA in working age (18–65 years), scheduled to undergo their first biologic treatment. Demographics and clinical data were collected at baseline and at 6 and 12 months, together with productivity outcomes assessed with the RA-specific work productivity survey (WPS-RA)[1] and the Health and Labour Questionnaire (HLQ)[2]. Primary outcome was the productivity loss or gain after 1 year of treatment.
Results: We included 100 patients from 7 rheumatology centres in northern Italy with active RA [mean DAS28: 5,1 (SD 0,9), median SDAI: 25,2 (IQR 18,7–33,2)]. Most of them were females (85%), with a mean age of 49,1 (SD: 10,3) years and a median disease duration of 7 (IQR: 3–14) years. Patients were treated with TNF-inhibitors (68%), Abatacept (24%) or Tocilizumab (8%). At baseline 39 patients were unemployed. After 1 year of treatment, 85 patients were still on follow-up, with an improvement in all indexes of disease activity [mean DAS28: 2,8 (SD 1,3), median SDAI: 5,1 (IQR 1,9–12,9)]. A significant reduction in number of days of work missed (absenteeism) and of reduced productivity (presenteeism) was observed in employed subjects, as well as a significant decrease in number of days missed of household work and social activities in all the study population (table 1).

Abstract AB0455 – Table 1

	Baseline [mean (SD)]	12 months [mean (SD)]	p (t-test for paired data)
Number of days of work missed (absenteism)	2.5 (3.6)	0.5 (1.3)	0.003
Number of days of reduced productivity (presenteism)	6.7 (7.9)	0.7 (1.6)	0.000
Rate of arthritis interference with work productivity (0–10 points scale)	3.8 (3.6)	1.3 (2.1)	0.014
Number of days of household work missed	7.5 (8.9)	3.2 (6.2)	0.000
Number of days of reduced productivity in household work	8.9 (9.6)	2.9 (5.3)	0.000
Number of days with social activities missed	6.8 (9.3)	1.9 (4.8)	0.000
Number of days with need for outside help	5.5 (8.2)	1.5 (4.6)	0.000
Rate of arthritis interference with household work productivity (0–10 points scale)	6.1 (2.8)	3.1 (3)	0.000

Conclusions: One year of treatment with biological drugs was associated with a significant improvement in outcomes related to productivity both within and outside home in a cohort of patients with RA.

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AB0456 EFFICACY AND SAFETY OF SWITCHING FROM ETANERCEPT REFERENCE PRODUCT TO LBEC0101 (ETANERCEPT BIOSIMILAR) COMPARED WITH CONTINUING LBEC0101 IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: LBEC0101 is a newly developed biosimilar of etanercept (ETN). As rheumatoid arthritis (RA) treatment is a long-standing process in the clinical practice, the long-term safety and efficacy of anti-TNF inhibitors have been studied and reported.[1] Clinical studies have been conducted to evaluate the efficacy and safety of biosimilar after switching from their originator drug.[2]
Objectives: To evaluate the long-term efficacy, safety, and immunogenicity of switching from the ETN reference product (RP) to LBEC0101 or continuing LBEC0101 in patients with RA.
Methods: This multicenter, single-arm, open-label extension study enrolled patients with RA who had completed the 52 week treatment period of the