Table 1. Study characteristics and outcomes for the outcome measure efficacy

First author, year	Vaccine	Patients	Medication used[a]	Follow-up	Result	Effect of medication on results
PCV/PPV						
Aikawa, 2015	PPV23	IG: n=17 JIA patients pre-etanercept CG: n=10 JIA patients using MTX	IG: MTX HD 2 weeks before ETA. CG: 10 LD MTX.	12 months	Invasive pneumococcal disease in 1 patient on TNFi: serotype NA	One patient using anti-TNF with IPD
Influenza						
Toplak, 2012	Influenza (H1N1, H3N2, Influenza B)	IG: n=31 JIA patients CG: n=14 HC and n=31 not vaccinated JIA patients	18 NSAID, 2 DMARD, 7 DMARD + GC, 4 TNF	6 months	Equal influenza in JIA vs HC. Influenza infection in 1 vaccinated vs 4 unvaccinated patients.	Not reported
Carvalho, 2013	Influenza (H1N1, H3N2, B/Florida)	IG: n=44 JIA patients CG: n=10 healthy controls	IS in 34-44%	180 days	Positive influenza samples in 5/14 vs 1/7 patients. ILI increase in unvaccinated vs vaccinated.	Not reported
VZV (live-attenuated vaccine)						
Groot, 2017	VZV (Oka strain, Varilrix as second dose)	IG: n=49 in total, 39 JIA patients CG: n=18 HC	49 MTX, 16 GCs, 3 biologicals	4-6 weeks after vaccination	N=3 patients with low antibody concentrations after vaccination had an episode of chickenpox at least 1 year after vaccination. The course of the episode was similar to health children.	When patients received the vaccination, one used abatacept, one MTX monotherapy, and one MTX and corticosteroids.
Covid-19						
Ziv, 2022	Covid-19 (BNT162b2 mRNA vaccine)	IG: n=1639 patients with IRD, of which 380 with JIA CG: n=524.471 HC	Not reported	21.6 weeks [interquartile range (IQR) 14.7–39.1], 19.0 weeks (IQR 13.6–36.9) and 8.9 weeks (IQR 7.3–11.6) after one, two and three doses of vaccine, respectively.	COVID-19 infection after one dose of vaccination JIA: 0% Control: 12.6% P<0.01	Not reported

AB, antibody; ABT, abatacept; ADA, adalimumab; AE, adverse event; ANR, Anakinra; AZA, azathioprine; bDMARD, biological disease modifying anti-rheumatic drugs; CAM, canakinumab CG, control group; Cy, cyclophosphamide; CYC, cyclosporine; DTP, diphtheria tetanus pertussis; ETN, etanercept; GC, glucocorticosteroids; GMT, geometric mean titer; HC, healthy controls; HAV, hepatitis A virus; HBV, hepatitis B virus; HCQ, hydroxychloroquine; IBD, inflammatory bowel disease; IG, intervention group; IgG, immunoglobulinG; IFX, infliximab; ILI, influenza like illness; IRD, immune rheumatic

diseases; IS, immunosuppression; IVIG, intravenous immunoglobulines; JIA, juvenile idiopathic arthritis; LEF, leflunomide; MMR(/V), measles mumps rubella (/varicella); MMF, mycophenolic acid; MV, measles vaccine; 6-MP, 6-mercaptopurine; MTX, methotrexate; NSAID, non-steroid anti-inflammatory drug; pts, patients; RAI, relative avidity index; RTX, rituximab; SAE, severe adverse event; SC, seroconversion; SP, seroprotection; SFU, spot forming units; TBE, tick-borne-encephalitis; TBEV, tick-borne-encephalitis virus; TCZ, tocilizumab; Thiopur, thiopurine; TNFi, tumor necrosis factor inhibitor; TT, tetanus toxoid; vacc, vaccine; VZV, varicella zoster virus;
[a] Medication used in the intervention group, unless reported different. Numbers represent amount of patients using that medication