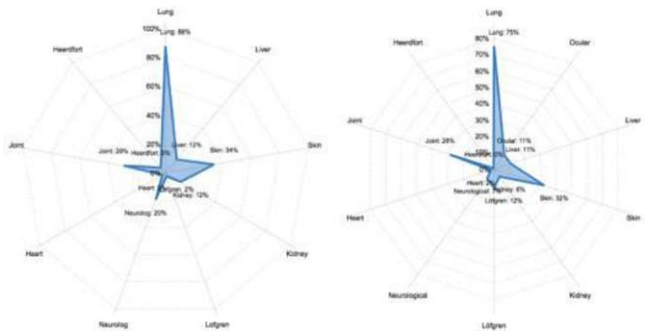

FIGURE. Comparison between distribution of organs affected in ocular sarcoidosis (left) and distribution of organs affected in general sarcoidosis (right)

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AB1207 EFFECT ON DIET MODIFICATION ON GOUT AND METABOLIC SYNDROME RISK FACTORS

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Background: Gout is the most prevalent inflammatory arthritis globally. Despite treatment advances, the prevalence of gout has continued to increase over the last several decades. There has also been increasing evidence that gout has a strong association with the metabolic syndrome. This indicates that gout is likely both an inflammatory and a metabolic disease that has a significant effect on quality of life and healthcare costs. Although current recommendations support aggressive medical therapy for gout treatment, dietary counseling is less emphasized. We hypothesize that emphasis on this nonpharmacological therapy will likely improve management and the metabolic syndrome in gout patients.

Objectives: To analyze the effectiveness of dietary counseling on gout management and risk factors for metabolic syndrome in gout patients at the Veteran's Affairs Medical Center in Long Beach, CA (VALB).

Methods: A retrospective cohort study was created from 2009-2016 involving Long Beach Veterans Affairs Hospital gout patients (n= 119) based on International Classification of Disease version 9 or 10. Patients were then stratified into two cohorts: received diet counseling (n=90) and no diet counseling (n=29). Data was reviewed for 24 months following initial gout diagnosis or intervention. Management was evaluated based on frequency of flares and related ED visits, change in creatinine clearance, serum uric acid levels (sUA), and changes to risk factors for metabolic syndrome including blood pressure, body mass index (BMI), cholesterol panel and hemoglobin A1c levels at six-month intervals.

Results: Although patients in both cohorts were noted to have decreased number of gout attacks, patients who received diet counseling had a significant decrease in number of gout attacks by month 12 (0=0.004). In addition, after 6 months, patients who received diet counseling were more likely to have sUA at goal (sUA<6 for nontophaeous gout and sUA<5 for tophaceous gout) (p=0.003). These patients were also noted to have improved creatinine clearance (p=0.08) and increased HDL (p =0.08). In addition, patients with improved HDL and LDL values more likely to have improved sUA levels and decreased ED visits (R^2=0.4, slope 0.14 and R^2=0.4, slope 0.05, respectively) by month 6. Patients with improved hemoglobin A1c levels were also noted to have a significant outcome in lowering serum uric acid level at month 18 (R^2=0.9, slope 2.6).

Conclusion: Gout patients who receive diet counseling had lower rate of future attacks and better control of sUA. In addition, these gout patients were also noted to have improvement in some risk factors associated with the metabolic syndrome. Notably, patients who had better control of their hemoglobin A1c levels were able to have lower serum uric acid levels. This may imply that controlling diabetes in patients may also help improve gout management. Given the serious complications and increased cardiovascular risks that can be associated with metabolic syndrome, optimization of gout through a nonpharmacologic intervention such as diet counseling can enhance clinical outcomes and optimize healthcare resources.

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AB1208 ADHERENCE TO TREATMENT AND DISEASE ACTIVITY ON RHEUMATOID ARTHRITIS

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Background: For treating Rheumatoid Arthritis (RA) it's clear that Treat to Target has presented the best strategy. The best outcome for patients has been attained by accepting clinical remission as the final objective in treatment. The development of new drugs for the treatment of RA has dramatically modified the approach clinicians have on the disease, however, the treatment of inflammatory conditions represents a challenge due to the multiple factors can affect its response.

It is known that non-adherence represents an increase in mortality, morbidity and healthcare costs.[1,2] Emphasis should be made on one of the most simple and effective variables that impact the effectiveness of treatment: adherence to treatment itself.

Objectives: This work aimed to evaluate the impact of methotrexate adherence on treatment outcome in patients with RA.

Methods: An observational, cross sectional study was performed using medical records from the Rheumatology Clinic at University Hospital from UANL Jose Eleuterio Gonzalez, Monterrey, México; the data was collected from 03/16/2018 to 01/29/2020. RA patients visits included fulfilled the 2010 ACR/EULAR classification, had their disease activity measured by Disease Activity Score 28 ESR (DAS28 ESR) and were treated with methotrexate as their primary disease modifying antirheumatic-drug (DMRAD). Patient disease activity was classified in 4 groups according to the DAS28 ESR score as <2.6 remission, 2.6-3.2 low activity, >3.2-5.1 moderate activity, >5.1 high activity.

Adherence to medication was evaluated utilizing a self-reported assessment that was applied per patient's visit. Patients were classified into 4 groups according to the percentage of the prescribed doses of Methotrexate that they abided to. Statistical analysis was performed using IBM SPSS 21 statistical package. Descriptive analyses were performed with frequencies (%) and the correlation between the calculated disease activity versus patient adherence to treatment was calculated using Pearson correlation coefficient. *P*-values <0.05 were considered statistically significant.

Results: A total of 795 patients visits were included. They were 92.33% female, mean (SD) age was 52.44 (±12.99) (Table 1). The most frequent routes for methotrexate were Oral 603 (75.84%), Subcutaneous 113 (14.21%) and Intramuscular 79 (9.93%). A significant correlation *r* (795) =0.-183, (*p*<0.001) was found between Disease Activity according to DAS28 ESR and Adherence classification according to prescribed doses taken

Table 1. Baseline Characteristics

	N= 795
Age, mean SD	52.44 (±12.99)
Sex, n (%)	
Female	734
Male	61
Methotrexate (mg/week)	
Average Dose	19.94
Median Dose	20
Intramuscular	79 (9.93%)
Subcutaneous	113 (14.21%)
Oral	603 (75.84%)
Disease Activity according to DAS28 ESR, n (%)	
Remission	343 (42.3)
Low activity	101 (12.5)
Moderate activity	292 (36.0)
High activity	59 (7.3)
Adherence classification according to prescribed doses taken, n (%)	
Absent (<25%)	20 (2.5%)
Poor (25-49%)	19 (2.3%)
Regular (50-74%)	55 (6.8%)
Adequate (>75%)	701 (86.5%)

Conclusion: Adherence to treatment with methotrexate therapy has a direct impact on RA treatment outcome. The evaluation of adherence to the prescribed treatment should be addressed before modifications in DMRAD therapy in patients with Rheumatoid Arthritis. Before considering treatment failure in a patient treated with methotrexate, adherence to treatment must be evaluated.

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According to our results, self-reported adherence appears to be a cost and time effective method to care for patients.

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AB1209 A SYSTEMATIC REVIEW ON THE EFFECT OF DMARDS ON FERTILITY IN RHEUMATOID ARTHRITIS

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Background: Patients with rheumatoid arthritis (RA) seem to experience a diminished fertility. Reasons for this lowered fertility are insufficiently defined and probably multifactorial. Although the effect of DMARDs on pregnancy outcomes have been studied, there is a lack of data on the effect of DMARDs on the fertility of patients with RA.

Objectives: To evaluate all studies that concern an effect of DMARDs on the fertility of men and women with RA in a systematic review.

Methods: A search was conducted at 18/10/2019 in three databases including Embase, Pubmed (Medline) and Web Of Science with specific search strings for each database, constructed with the help from a health sciences librarian. We included studies involving women or men diagnosed with RA, of fertile age (18-45years) and on a DMARD therapy, with as outcome a fertility parameter. Systematic reviews, meta-analyses, case reports, case series and animal studies were excluded. Studies not in English or Dutch or written more than 15 years ago were excluded. Article selection was firstly based on title/abstract (double blind, two researchers, LB and IS) and then full text (two researchers, LB and IS). In case consensus could not be reached, a third researcher (DDC) was consulted. The references of included articles were reviewed ("snowballing") to include and minimize the missing articles. A quality check of the included full text papers was performed using the CASP Appraisal Checklists. A chart was made based on outcomes of interest.

Results: After duplicate removal, 9030 articles were found. After title/abstract screening, 82 articles remained. After full text screening, 4 articles could be retained. No additional studies were found through snowballing. Only studies about women could be included, as the evidence found for men was all in papers with exclusion criteria for our systematic review (e.g. case reports). Table 1 summarizes these papers. The included studies investigated the following DMARDs: methotrexate (MTX), certolizumab pegol (CZP), etanercept (ETN) and sulfasalazine (SSZ). No detrimental effects of these DMARDs on fertility, defined as time-to-pregnancy (TTP), anti-Müllerian hormone serum level or presence of a history of infertility, were reported.

Conclusion: This systematic review underlines the knowledge gap on the effect of DMARDs on fertility in human studies. Only 4 studies on women, and no studies on men were found. In the 4 included studies, DMARD treatment, even with MTX in contrast to general belief, had no harmful effect on fertility, probably because disease activity was better controlled with DMARD therapy. However, effects of other RA medication such as NSAIDs were excluded. More research is needed to improve guidance for patients with RA with a child wish.

Table 1. Characteristics of studies included in the systematic review

Authors	Location	Sample	DMARD	Outcome	Method	Design	Result
Akintayo et al. 2018	Nigeria	50 women with RA and 50 women without RA	MTX	Infertility or history of infertility	Interviewer-administered questionnaire	Retrospective study	MTX was associated with a negative history of infertility
Shimada et al. 2019	Japan	25 pregnancies in 19 patients with RA	CZP and ETN	TTP (time to pregnancy)	medical records	Retrospective study	bDMARD treatment shortened the TTP
Brouwer et al. 2013	The Netherlands	72 women with recent-onset RA compared to 509 healthy women	MTX	Level of serum AMH	medical records, serum samples (2 time points)	Retrospective study	AMH levels were not lower with MTX.
Brouwer et al. 2014	The Netherlands	245 women with RA	MTX and SSZ	TTP	Questionnaires and interviews	Prospective cohort study	MTX and SSZ did not prolong TTP

RA = Rheumatoid Arthritis; MTX = Methotrexate; TNFi = Tumor Necrosis Factor inhibitor; CZP = Certolizumab pegol; ETN = Etanercept; SSZ = Sulfasalazine; TTP = Time to Pregnancy; DMARD = Disease Modifying Antirheumatic Drug; AMH = Anti-Müllerian hormone

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AB1210 THE IMPACT OF EXAMINATION STRESS ON AUTOIMMUNE DISEASES AMONG UNIVERSITY STUDENTS

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Background: Stress is a risk factor of various diseases including autoimmune diseases. Autoimmune diseases are one of the leading causes of morbidity in young adults. (1) Examination stress is a main concern nowadays due to the study style, lack of preparation, doctor- student relationship and family pressure. (2) The previous studies declared that stress may causes neuroendocrinal changes leading to immune dysregulations and cytokines production. (3)

Objectives: The aim of study is to scope the light on the importance of stress as a predisposing factor in autoimmune disease flares particularly Examination stress.

Methods: A three-year (2017-2019) cross-sectional prospective study conducted on 1365 students who presented to the Alexandria University rheumatology clinic during examinations. Clinical assessments, routine investigations, activity markers, activity indices, stress and anxiety questionnaires and perceived stress scale (PSS) were applied to all patients during consecutive visits.

Results: Through 5800 visits in three years during examination sessions, patients age ranged from (17 -25) years with 76% females and 24% males. They grouped into SLE (31.35%), Rheumatoid arthritis (RA) (37.28%), Fibromyalgia (13.91%), FMF (2.63%), Ankylosing Spondylitis (1.75%), Psoriatic arthritis (0.73%), systemic sclerosis (0.58%), and undifferentiated connective tissue (11.73%). According to SLE patients, 43.92% were newly diagnosed whilst 54.16% of previously diagnosed SLE presented with Flare in particular lupus nephritis (56.33%), arthritis (43.22%), hematological (49.76%) and serositis (21.36%). Interestingly, RA patients who newly diagnosed were 35.16% of total RA patients while 42.42% of previously diagnosed RA patients presented with moderate and high DAS-28 due to incompliance with treatment in (64.37%) of patients, (11.53% on biological, 88.47% on conventional treatment). In addition, (49.36%) of FMF presented in recent attacks. It was also found that Arthralgia, bone aches and sleep deprivation are the main complaints. Concerning, A High perceived stress scale (PSS) was associated with High DAS28 and SLEDI-2K scores. (r_s = 0.723, 0.865) (P<0.001)

Conclusion: Examination stress is one of triggering factor for autoimmune disease flares. It is associated with high disease activities and ruthless outcomes.

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AB1211 IMMUNE-RELATED ADVERSE EVENTS IN PATIENTS RECEIVING PD-1/PD-L1 INHIBITORS: PRELIMINARY RESULTS FROM A PROSPECTIVE COHORT STUDY

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