Background and aims: SLE patient who had deficiency of vitamin D, had worsen clinical manifestation. Vitamin D and Curcumin; a novel Vitamin D Receptor (VDR) ligand, are immunomodulator. The purpose of this study, to compare efficacy whether curcumin supplementation in vitamin D treatment will give improvement of disease activity, fatigue and proteinuria in SLE patient with vitamin D deficiency.

Methods: This study was a double blind RCT included 40 active SLE patient more than 18 yo with level 25(OH)D3 ≤30 ng/ml were enrolled for this study. There were divided into 2 group, control group who received cholecalciferol 3 × 400 IU plus placebo and trial group who received cholecalciferol 3 × 400 IU and curcumin 3 × 20 mg for 6 months. Demographic data, family history, medications, laboratory test, SELDAI and FSS were taken before and after treatment. Serum cytokines were measure using ELISA. The results between 2 groups were evaluated with independent t-test and spearman/pearson correlation test using SPSS software.

Results: Age of participant are 28.1±8.1, disease duration 3.1±2.3 year. The addition of curcumin in the suplementation treatment with vitamin D increase the benefit of vitamin D. Combination of curcumin and vitamin D result in better disease activity suppression, less fatigue and less proteinuria compare with vitamin D supplementation alone. The clinical improvement were related to decrease in proinflammatory cytokines (IFNγ, TNFα and IL-17). There were no major adverse events in both groups.

Conclusions: The addition of curcumin to the vitamin D supplementation therapy result in better efficacy.

Background and aims: The aim of this study is to assess the effect of curcumin treatment on the clinical manifestations, Th-cells subsets/Treg percentages, pro-inflammatory cytokines and autoantibody production of pristane induced lupus mice.

Methods: Forty female Balb/c mice (6–8 weeks of age with body weight 30–50 gram) were single injected with pristane intraperitoneally for lupus induction. The mice were assigned to 3 groups treated with 3 different doses of curcumin given 12.5 mg/, 50 mg/, and 200 mg/kgBW/day. One group of mice was control it was not treated with curcumin. The mice were monitored for clinical manifestations (arthritis score, proteinuria, and body weight). After 32 weeks post injection, the spleens were taken and assayed for Th1, Th2, Th17, and Treg percentages using flow cytometry. Serum was collected for ANA, IL-6, and IFN-α measurement by ELISA.

Results: Arthritis score was lower in all groups treated with curcumin (p=0.000). However, proteinuria and body weights were not statistically different between all groups of mice. ANA levels decreased significantly after treatment with 200 mg/kgBW/day of curcumin (p=0.024). The decreased of Th1, Th2, and Th17 percentages were also seen after treatment of 200 mg/kgBW/day of curcumin (p=0.043, p=0.026, and p=0.009), however, only slight increase of Treg percentages was seen. Treatment with 200 mg/kgBW/day of curcumin decreased serum IL-6 and IFN-α levels (p=0.012 and p=0.003).

Conclusions: Curcumin protects manifestation of arthritis in pristane induced lupus mice and ANA production, modulating Th-cell subsets, and inhibiting production of proinflammatory cytokines.