

## PhD project

# The pharmacodynamic effect of N-acetylcysteine as adjunctive therapy in mild Systemic Lupus Erythematosus patients

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### Abstract

**Introduction:** N-acetylcysteine (NAC) is known as a glutathione (GSH) precursor. GSH is a biomolecule which has a high antioxidant activity. Enhancement of lipid peroxidation and antioxidant deficiency are observed in Systemic Lupus Erythematosus (SLE) patients. Several studies revealed the effect of NAC in various diseases such as cardiovascular, diabetes, HIV infection and cancer. However, studies of NAC in SLE patients is rarely found. Therefore, this study aimed to evaluate the pharmacodynamic effect of NAC in mild SLE patients in order to implement NAC as adjunctive therapy in SLE population.

**Method:** Forty mild SLE patients were randomly allocated to receive 1800 mg of NAC along with standard therapy or receive standard therapy alone. The follow up was performed at 2 weeks, then at every month up to 6 months. GSH and Malondialdehyde (MDA), a lipid peroxidation product in plasma were measured at each visit. In addition, clinical symptoms were also evaluated.

**Results:** The results demonstrated that supplementation of 1800 mg of NAC did not significantly affect the GSH level, however, the MDA level was significantly decreased and the number of patient who could taper prednisolone dosage was higher on the NAC group as compared to control group. Therefore, administration of NAC can be beneficial in SLE patients. However, the effects of different dosages of NAC should be considered along with the expansion use of NAC in moderate and severe SLE patients to confirm these results.

## References

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