ABSTRACT

NAFLD is a metabolic disorder that affects almost 25-30% population globally. NAFLD is mainly characterized by high level of hepatic fat accumulation, impaired liver function and dyslipidemia. In last few years, a lot of researches on plant derived antioxidants have showed their potential against multiple diseases. The present study mainly focuses on evaluation of therapeutic potential of *Cordia obliqua* to target NAFLD in mice induced by HFD.

Hepatoprotective experiment was performed by inducing NAFLD in mice and giving *Cordia oblique* extract as treatment. Mice were given HFD for 12 weeks to induce NAFLD. LFTs, RFTs, lipid profile, and oxidative stress were dysregulated by HFD. Different concentrations of *C. obliqua* were given as treatment. The results obtained from *C. obliqua* methanolic leaf extract treatment groups showed that the lipid profile in mice was significantly improved. TAC level was also significantly increased in mice treated with *C. obliqua* methanolic leaf extract.

Our experimental results suggested that *C. obliqua* methanolic leaf extract has antioxidant, antihyperlipidemic, anti-inflammatory and hepatoprotective potential and it can be used as therapeutic agent to regulate the changes associated with NAFLD. Further in-vitro and clinical trials may lead to development of *C. obliqua* methanolic leaf extract-based drug that can be used to treat NAFLD.

Keywords: NAFLD, HFD, *Cordia obliqua,* LFTs, RFTs, TAC, catalase, lipid profile.