ABSTRACT

Liver diseases are a major concern for health professionals causing a large number of people to suffer from them. Nonalcoholic fatty liver disease (NAFLD) mainly caused by bad dietary habits is a widespread liver disease causing morbidity and mortality worldwide. The prevalence of NAFLD is 30 % worldwide while 43-51% in Asia, and is continuously increasing. By the next decade, it is projected that the prevalence of NAFLD will increase 55.4% worldwide. Herbal treatments are again gaining popularity in treating various diseases like malaria, dengue, diarrhea, and liver-related diseases. Various plant materials are used to treat NAFLD like Curcumin, Silymarin, and Salvia miltiorrhiza. In our research Arq e mehzal manufactured by Lasani Pharma is a treatment agent which is a polyherbal combination that is commercially available and used to treat obesity. Its ingredients have antioxidant, hyperlipidemic, anti-inflammatory, antidiabetic, anti-obesity, and other phytochemical properties. This study aims to evaluate the protective and curative effects of Arq e mehzal against non-alcoholic fatty liver disease in the mice model.

Firstly, mice were fed a HFD rich in cholesterol for 12 weeks with or without Arq e mehzal dosage. Changes in body weight, liver weight, lipid profile, LFTs, RFT, oxidative stress (catalase and total antioxidant capacity), and liver histology were compared with mice fed on normal feed. High-fat diet successfully caused NAFLD by dysregulating the lipid profile, LFTs, RFTs, oxidative stress, and liver histology. While Arq e mehzal administration effectively regulated the previously mentioned parameters proving its protective effects.

Secondly, mice were fed a high-fat, high-cholesterol diet for 16 weeks with or without Arq e mehzal administration. Changes in the aforementioned parameters are compared with mice fed on the standard diet resulting in the development of NAFLD. Arq e mehzal administration successfully reduces the disrupted levels of enzymes in serum and liver histology proving its curative effects. Our results suggested that after further extensive studies and clinical trials Arq e mehzal could be potentially used as an alternative to currently used drugs for the treatment of NAFLD because of its synergistic effects of various therapeutic properties.