

## In vivo potent hepatoprotective effects of *F. indica* and *S. aromaticum* against hepatotoxicity induced by Mercuric chloride

Umm-e-Habiba<sup>1</sup> \*, Shazia Afzal<sup>1</sup> and Raheela Jabeen<sup>1</sup>

<sup>1</sup>Department of Biochemistry and Biotechnology, The women University, Multan Pakistan

### Abstract

Human's largest body organ is liver which performs significant function including detoxification, synthesis of protein and metabolic function. Hepatotoxicity has become one of the major health issue worldwide and increases rapidly due to infectious and non-infectious agents. Mercuric Chloride is non-infectious agent that causes hepatotoxicity when taken in high dose by elevating liver enzymes and disrupting its functions. Green medicine have been used to cure various diseases from the ancient times. So, the aims of this research was to examine the hepatoprotective potential of medicinal plants *F.indica* and *S. aromaticum*. Methanolic extracts of both plants were prepared and analyzed through antioxidant activities initially and then *in vivo* hepatoprotective analysis was conducted on experimental rats. *In vitro* results indicated that both plants have antioxidant potential but among of them *F.indica* showed high TFC, TPC and % inhibition of DPPH as compared to *S.aromaticum*. Moreover, the hepatoprotective effects of these plants against mercuric chloride were measured and compared to standard drug Allopurinol. Blood serum samples were collected and analyzed for hepatoprotective potential in which LFT's were examined. Both plants showed hepatoprotective properties by recovering increased levels of liver enzymes. It was revealed from histopathological results that both plants have potency to recover vacuolization and necrosis of hepatic cells which was occurred due to mercuric chloride in comparison with allopurinol. This study lays the door for future therapeutic applications addressing oxidative stress-related diseases, representing a significant step forward in the intersection of herbal medicine and healthcare innovation.

**Key Words:** Hepatoprotective, Oxidative stress, Liver function test, Mercuric chloride

