AIM AND OBJECTIVES
Aim

The study was designed with the aim to investigate the role of PARP-1 in pulmonary hypertension and associated secondary complications like endothelial dysfunction and right ventricular cardiac hypertrophy in rat model of PH induced by monocrotaline (MCT). To achieve this aim following were the specific objectives of the study:

1. To standardize (dose of MCT and duration following its administration) and validate MCT-induced PH in rats.

2. To study the effect of modulation of PARP-1 using PARP-1 inhibitor, 1,5 Isoquinolinediol on different hemodynamic, biochemical and molecular parameters in MCT-induced PH in rats.

3. To study the involvement of PARP-1 in the protective effect of Withania somnifera in rat model of PH induced by MCT.
Initially the model of pulmonary hypertension was standardized using different doses of monocrotaline for different time periods. After having selected the dose and the time period, the model was validated with clinically used endothelin receptor antagonist Bosentan. In the standardized and validated model of PH, different hemodynamic parameters, pulmonary vascular reactivity, biochemical parameters, histology and molecular studies (expression of different proteins) were carried out.