LIMITATIONS AND FUTURE PROSPECTS
LIMITATIONS:

Diabetic patients on modern medicine treatment were observed to be relying heavily on alternative systems of medicine including ayurvedic drugs and formulations. The effects of these drugs on overall physiology and metabolic status of patients are difficult to analyze owing to several factors, including but not limited to, availability of diverse alternative medicines, patterns of prescription of these drugs, which varies considerably amongst the practitioners of such medicine systems, authenticity of the drugs and multiple components used in the formulations and alterations in prescribed drugs and dosages by patients on their own etc. These ayurvedic drugs are known to have significant antioxidant and antihyperglycemic activities. The contribution of such activities of these drugs on prognosis of hyperglycemic status and oxidative stress in the patients was not the subject of investigations in the present study. Though statistically significant, the present study has relatively small sample size because of limited resources and limited access to population of interest. Further studies need to be planned on larger sample size which may lead to conclusions for better clinical management of the patients. Nevertheless, the results provide evidence that the oral hypoglycemic agents show gender dependent differences in lipid profile, LFT markers, antioxidant enzymes, inflammation, adipocytokines and their association.

There are several probable factors which may modify biochemical parameters and gene expression patterns as shown in Fig. 33. Until now, there has been no clear evidence indicating differences between these parameters in male and female diabetic individuals.
**Fig. 33: Probable Factors Responsible for the Modification of Biochemical Parameters and Expression of Genes**

**OHAs: Oral hypoglycemic agents; PBMCs: Peripheral blood mononuclear cells**

**FUTURE PROSPECTS:**

A study with a larger sample size is necessary to unravel additional effects, if any, of the antidiabetic medications. An omega-3 fatty acid intervention study in diabetic individuals with dyslipidemia and/or secondary complications will also help to understand the role of PUFA in improving the clinical outcomes. The animal study reported in the thesis indicates a need to examine effects of metformin and omega-3 fatty acids in dose dependent manner.