CONCLUSIONS
6.0 CONCLUSIONS

- In this study three hundred patients of known CAD are studied. Among traditional risk factors there is male preponderance, 78.4% are overweight or obese, 62.7% has hypertension, 41.3% has dyslipidemia and 41.7% has diabetes. About 5% patients had no traditional risk factors.

- Vitamin B12 deficiency and hyperhomocysteinemia are present in 86.7% and 95.3% patients. These are associated with traditional and non-traditional cardiovascular risk factors and are independently associated with dyslipidemia even after adjustment with all other risk factors. Thus, vitamin B12 deficiency causing hyperhomocysteinemia may be a risk factor for cardiovascular disease and important for prediction of future cardiovascular disease.

- Half of cardiovascular disease patients have hypomagnesaemia. There is a strong correlation between serum and dietary magnesium. Serum and dietary magnesium are strongly related to cardiovascular risk factors like dyslipidemia, DM and HTN. There are few studies indicating improvement in atherogenic lipid profile with magnesium supplementation. Hence, magnesium supplementation in our population may help in cardiovascular disease.

- Subjects with diabetes have more traditional risk factors (HTN, dyslipidemia) than subjects without diabetes in known patients with CAD. Diabetic patients have higher levels of insulin resistance, inflammatory markers and Hcy compared to non-diabetics. Vitamin B12 deficiency is common and subjects with diabetes have lower levels of vitamin B12. Nutritional factors are inter-related with insulin resistance and inflammation and may play an important role in pathogenesis of diabetes and cardiovascular disease.

- The present study shows that inflammatory markers (hs-CRP, IL6 and TNF-α) have a strong association with diabetes, dyslipidemia, HTN, and insulin resistance in subjects with underlying CVD. The findings of this study thus suggest that many Indians have an underlying proinflammatory state that may contribute to increased cardiovascular risk and predispose them to CVD.

- Modern diet may facilitate activation of the innate immune system, by an excessive production of pro-inflammatory cytokines and insulin resistance, which will
predispose susceptible people to an increased incidence of diabetes and cardiovascular disease. This may explain partly recent epidemic of obesity, DM and cardiovascular disease. Because changes in dietary habits are relatively low risk, low cost, and widely available, even minute effects on risk are important on a population level. Thus, dietary recommendations, together with other lifestyle modifications such as smoking cessation and increased physical activity must play a central role in the prevention and treatment of CVD.

- Half of cardiovascular disease patients have kapha vata constitution type. It may be concluded that as there is dominance of VK and kapha prakriti and there is strong correlation with risk factors, insulin resistance, and inflammatory markers. Hence, identifying an individual with VK and Kapha prakriti will help in taking precautionary measures for future risk of cardiovascular disease.

“This is an attempt to link Clinical Biochemistry and Ayurveda in the management of Cardiovascular Disease. This integrated approach would certainly help in early diagnosis, preventive management and appropriate therapy.”

Though prospective trials were unable to show beneficial effects of vitamin supplementation (856); long term prospective studies are required in our population with underlying high prevalence of nutritional deficiency to show beneficial effect of nutritional supplementation on non-communicable diseases.