Introduction
Atherosclerosis is the leading cause of death and serious morbidity in the present human civilization. It is a progressive disease which begins in childhood and has manifestations in the middle to late adulthood.

Although any artery may be affected, the aorta, the coronary and the cerebral systems are the prime targets. Hence myocardial infarction, cerebral infarction and aortic aneurysms are the major consequences of this disease. Moreover, extensive atheromas are friable often yielding emboli of their grumous contents into the distal circulation (Atheroemboli) more commonly noted in the kidneys.

Other consequences of acutely or chronically diminished arterial perfusion are such as gangrene of the legs, mesenteric occlusion, chronic ischemic heart disease, ischemic encephelopathy and sudden cardiac death.

Hyperlipidemia, hypertension, cigarette smoking and diabetes are the most significant risk factors for atherosclerosis. The direct relationship between total serum cholesterol and the incidence of coronary artery disease (CAD) has been well established by Framingham study. Abnormalities in plasma lipoproteins and
dearrangements in lipid metabolism are the most firmly established and best understood risk factor for atherosclerosis.

Classically, risk factors involved in the causation of atherosclerosis are divided into two categories:

i) Those modifiable by lifestyle and/or pharmacotherapy.

ii) Those that are essentially unmodifiable (e.g. age, male gender, genetics).

Garlic (Allium sativum L.) has come to be seen as an all round treatment for preventing atherosclerosis the cause of heart disease and strokes.

Garlic also appears to slightly improve hypertension, protect against free radicals and slow blood coagulation. Garlic has also been proposed as a treatment for asthma, candida, colds and diabetes.

Garlic preparations have been found to slow hardening of the arteries in animals, reducing the size of plaque deposits by nearly 50%. It reduces serum cholesterol levels primarily by inhibiting cholesterol synthesis.

Both raw garlic and preparation of garlic act by similar mechanism which are related to the amount of garlic used and to
the mixture of multiple compounds from the sulfur containing class of thiosulfinates, ajoenes and dithins.

Five individual sulfur containing compounds in garlic are ajoene, methylajoene, allicin, 2-vinyl-4H-1,3 dithin and diallyldisulphide inhibit cholesterol synthesis by 37%-42%.

Garlic contains an essential oil allicin (C₆H₁₀S₂₀) which contains allylpropyldisulphide, diallyldisulphide and several other sulfur compounds as mentioned above. It has also been found that garlic almost completely suppresses thromboxane B₂ synthesis.

Garlic inhibits platelet aggregation by alteration in both the platelet cyclooxygenase and lipooxygenase pathway. Work by Apitz Castro et al suggests that garlic inhibitory effect might be mediated through modification of the physiochemical properties of the plasma membrane, rather than by affecting the arachidonic or calcium metabolism of platelets.

Studies by Ariga et al have been shown that garlic extract which inhibit platelet aggregation by suppressing thromboxane synthesis is to be as methyl allyl trisuphide (MATS).

Garlic has also been found that it increases fibrinolytic activity. The precise mechanism(s) remain to be defined.
Many studies have found that certain forms of garlic can lower total cholesterol levels by about 9-12%\textsuperscript{23}. Although similar studies conducted at various parts of the worlds did not show any significant change in cholesterol levels by use of garlic\textsuperscript{1, 6, 26, 35, 36}.

Bordia et al\textsuperscript{2-4} have claimed that acute ingestion of garlic in healthy subjects will prevent fat induced changes in blood lipids, coagulation and fibrinolysis and they claimed it superior to clofibrate. Later Sainani et al\textsuperscript{5} confirmed the reported beneficial effects of garlic.

Henceforth promoters of essential oil extracts of garlic known as “Garlic pearls” (each capsule containing 0.625mg of garlic oil i.e. garlic oil 0.25%w/w excipients qs to 250mg) advertise their efficacy in reducing serum cholesterol and in preventing heart disease.

Although study conducted by Arora et al (1981)\textsuperscript{6} at department of Medicine, M.L.B. Medical College, Jhansi have demonstrated that garlic did not cause any significant change in serum cholesterol values and does not substantiate the efficacy of garlic in the management of IHD as a hypocholesterolemic or as a fibrinolytic agent.

Lipid lowering drugs such as statins are an exciting advance, they decrease hepatic cholesterol synthesis by inhibiting HMGCoA
reductase. They are highly effective in reducing total & LDL cholesterol, they usually increase HDL cholesterol. Long term efficacy and safety has been established.

A number of angiographic trials using statin monotherapy have been performed such as multicentre anti atheroma study (MAAS), multicenter coronary intervention study (CIS) that uniformly demonstrated significant improvement in the lipid profile with simvastatin plus diet therapy as compared with the changes induced by dietary intervention alone.

Scandinavian simvastatin survival study (4S) evaluated that simvastatin therapy resulted in a significant beneficial alteration of the lipid profile.

Therefore we, decided to re evaluate the effect of raw garlic and essential oil extracts of garlic on lipid lipoprotein profile in subjects of hypercholesterolemia and to compare the effect with that of the well known hypolipidemic drug simvastatin. The effect of withdrawal was also studied.