There has been an increasing demand for agents for the treatment of postmenopausal symptoms in women with less toxic effects because the currently available agents for the treatment are not fully devoid of adverse ill effects. Of particular interest in relation to human health are the class of compounds known as the phytoestrogens, which embody several groups of non-steroidal estrogens including isoflavones and lignans that are widely distributed within the plant kingdom. These phytoestrogens are strikingly similar in chemical structure to the mammalian estrogen, estradiol, and bind to estrogen receptors (ER) with a preference for the more recently described ER beta. The structural similarity of phytoestrogens to endogenous estrogens also has prompted the hypothesis that phytoestrogens exert hormonal or anti-hormonal effects relevant to the risk of hormone-dependent disease and/or their suitability as a dietary alternative to hormone replacement therapy in several diseases including osteoporosis.

Garlic (*Allium sativum* Linn.) has been considered as a substantial source of dietary lignan and quercetin which are types of phytoestrogen. It has also been reported to exert potent hypolipidemic and hypocholesterolemic effect similar to the hydroxymethylglutaryl coenzyme A reductase inhibitors (statins) which are widely used in the treatment of dyslipidemia in an age group that has an increased prevalence of osteoporosis. Recent animal studies have shown that statins stimulate bone formation, which has raised the possibility that these drugs may be used as anabolic agents in the management of established osteoporosis. Recent data also indicate that the use of statins in humans may be associated with an increased bone mineral density (BMD) and reduced fracture rate.

The promising phytoestrogenic and cholesterol-lowering potentiality of garlic has prompted us to undertake a systemic study to evaluate the role of oil extract of garlic as an anti-osteoporotic agent in an ovariectomized rat model of osteoporosis.