Modern chronic diseases, including cardiovascular diseases are the leading killers in westernized societies and are increasing rampantly in developing nations all over the globe (Roberts and Barnard, 2005). Cardiovascular diseases (CVD) caused 2.3 million deaths in India in the year 1990; this is projected to double by the year 2020. Hypertension has been recognized as a major risk factor for several common cardiovascular diseases. The relationship between blood pressure (BP) and risk of CVD events is continuous, consistent and independent of other risk factors. Hypertension accelerates the atherosclerotic process especially when hyperlipidemia is also present, contributes significantly to CVD and thereby associated with high mortality and morbidity (Ghafoorunissa and Krishnaswamy, 2000).

Hypertension is directly responsible for 57 per cent of all stroke deaths and 24 per cent of all coronary heart disease deaths and moreover, affecting 25 million Indians (Gupta, 2004). Hypertension is epidemic affecting 50 million US people, and 25 per cent of the world’s population (Johnson et al., 2005).

Hypertension is the defensive effort of the heart to supply blood through the narrow vessels. The average blood pressure that is considered as normal is 120 / 80 mm of Hg, where higher value (120) is systolic blood pressure (SBP) and the lower value (80) depicts diastolic blood pressure or DBP. The risk of CVD beginning at 115/75 mm of Hg doubles with each increment of 20/10 mm of Hg.

### Classification and management of blood pressure for adults (WHO, 2003; JNC-7, 2003)

<table>
<thead>
<tr>
<th>BP Classification</th>
<th>SBP mm Hg</th>
<th>DBP mm Hg</th>
<th>Lifestyle modifications</th>
<th>Drug therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>≤ 120</td>
<td>≤ 80</td>
<td>Encourage</td>
<td>No hypertensive drug indicated</td>
</tr>
<tr>
<td>Pre Hypertension</td>
<td>120-139</td>
<td>80-89</td>
<td>Yes</td>
<td>Drug therapy is required</td>
</tr>
<tr>
<td>Stage I Hypertension</td>
<td>140-159</td>
<td>90-99</td>
<td>Yes</td>
<td>Two drug combinations may be required</td>
</tr>
<tr>
<td>Stage II Hypertension</td>
<td>≥ 160</td>
<td>≥ 100</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

Individuals who are normotensive at an age of 55 years have a 90 per cent lifetime risk for developing Hypertension. The objective of treatment is to keep BP < 140 / 90 mm Hg and < 130 / 80 mm Hg for patients with diabetes or chronic kidney disease.
Hypertension (HTN) or elevated arterial blood pressure (HBP) or simply high blood pressure is regarded as the “Silent Killer” because it generally causes no symptoms or very few, if any. One of the most dangerous aspects of the Hypertension is that it lurks silently in the circulatory system and strikes suddenly (Rao and Easwaran, 1990). It is estimated that only 30 per cent of the individuals who have the disease are aware of their condition (Handysides and Landless, 2004). It does not hurt and usually does not make a person feel sick, but if not detected or left uncontrolled, high blood pressure increases the risk of life threatening complications like heart disease, stroke, kidney problem and blindness over a course of years (Sonika et al., 2005). The epidemiological surveys conducted in India indicate that a large majority of patients are either unaware of their disease or they are not properly treated (Rao and Easwaran, 1990). In upto 95 per cent of cases, no clear cause of Hypertension can be identified. This type of blood pressure is known as “Essential Hypertension” and genetic factors play a role in its development. In about 5 per cent of cases HBP develops as a result of other medical or dietary disorders. This type of HBP is known as “Secondary Hypertension”.

Although high blood pressure is the most common reason for outpatient visits, BP control is often inadequate. It is well established that BP can be lowered pharmacologically in hypertensive individuals, however antihypertensive medications are not effective for everyone, may be costly and may result in adverse effects that impair quality of life and reduces adherence. Moreover abnormalities associated with high blood pressure, such as insulin resistance and hyperlipidemia, may persist or may even be exacerbated by some antihypertensive medications (Bacon et al., 2004). Consequently non-pharmacological approach has received considerable attention in recent years in the management of Hypertension, both as definitive intervention and as an adjunct to drug therapy.

Hypertension is one such disease where diet is considered to play an important role in its etiology, particularly a high intake of salt and highly refined diet of the westernized societies. The affluent sections of society lead sedentary life and prefer to eat high energy foods irrespective of the requirement of the body and this is contributing cause for the wide prevalence of nutritional disorders.

Nutrition is the most important single factor that affects health and well being of man. Nutrition and health are synonymous, but without good nutrition health cannot be at its best. Therefore
nutritional status is considered as vital determining factor for health status as a whole. Food and nutrient intake are closely related to nutritional status and health of an individual. Imbalance of nutrients is the major cause of most of the chronic diseases including Hypertension. Moreover food consumption pattern is an index of type of food consumed, likings and preferences of individuals. In other words, the food habits also provide an insight to the cause of health problems and lay the foundation for the nutrient intake of an individual which determines the nutritional status.

Anthropometric measurements (height, weight etc.) are one of practical, cheap and accepted technique for the assessment of health and nutritional status of an individual. Growth of human beings follows a particular pattern for height and weight at various ages. Any deviations from standard may affect health; therefore, anthropometry is essential parameter to predict in chronic disease risks and mortality in any population (Esmailzadeh et al., 2004).

Hypertension is a disorder in which nutrition education plays an important role. Most of the people though educated are quite ignorant. Keeping in view the increasing incidence of Hypertension, a community based HTN control is important for primary prevention of cardiovascular disease (Iso et al., 1996). There is an urgent need to educate the masses regarding nature of disease, risk factors, complications and management of the disease etc. Walia (1996) reported that nutrition counselling decreased significantly the weight and blood pressure in hypertensive patients, improved their knowledge and developed positive attitude for dietary intervention.

Non pharmacological approach has received considerable attention in recent years in the management of Hypertension, the highly prevalent, yet modifiable cardiovascular risk factor. This approach is effective both as definitive intervention and as an adjunct to drug therapy (Rao and Easwaran, 1990). HTN is closely linked to diet; therefore dietary modifications are sufficient enough to control the mild Hypertension, along with correcting the underlying causes in secondary Hypertension. Many observational and interventional epidemiological studies have demonstrated that a high intake of salt results in elevation of blood pressure, and that a salt reduced diet induces blood pressure reduction in patients with Hypertension as well as in individuals with normal blood pressure (Nakagawa and Miura, 2004). Adoption of healthy lifestyles by all persons is critical for the prevention of high BP and is an indispensable part of the management of those with Hypertension. Major lifestyle
modifications shown to lower BP include weight reduction in overweight or obese (Wolk et al., 2003), adoption of healthy eating (DASH) Plan (Svetkey et al., 2004), increasing physical activity (Nakanishi and Suzuki, 2005), modification of personal habits of smoking and alcohol consumption. Lifestyle modifications reduce BP, enhance antihypertensive drug efficacy and decrease cardiovascular risk. Combination of two (or more) lifestyle modifications can achieve even better results (Dicky and Janick, 2001).

Hypertension is defined not just as a measured number that require adjustment, but as pressure developed by a particular person in circumstances that need to be assessed along with risk factors relevant to that particular patient that could add to the possible pathological damage caused by Hypertension (Parsons, 1987). So keeping in view the aforesaid facts, the present investigation has been planned and carried out to assess the nutritional status of selected hypertensive subjects with the following objectives:

- To study the food consumption pattern of Hypertensive subjects.
- To assess the diet and nutrient intake of selected subjects.
- To assess the anthropometry of the subjects.
- To provide nutrition counselling to the Hypertensive subjects.