Chapter 1

INTRODUCTION TO THE AIMS AND OBJECTIVES
Introduction

Traditionally, hypertension has been considered an uncommon problem in childhood and adolescence, especially the essential hypertension but, essential hypertension is now emerging as a hidden problem in children and adolescents which should be detected by not avoiding blood pressure measurement at the health check up of such population. Elevated blood pressure at a young age is a predictor of blood pressure elevation later in life. Elevated blood pressure may begin in childhood or adolescence. Clinicians therefore have an important role to play in educating children and families about blood pressure and the approaches that are useful in preventing and treating hypertension.\(^ {200,32,172,28}\) Various pediatric consensus statements and guideline recommendations emphasize on the importance of blood pressure measurement at every examination after 3 years of age.\(^ {2}\)

Though sustained hypertension in children usually has some etiology like chronic renal disease or coarctation of aorta (in infants), many children of 10 years’ age and above has been detected to have primary (essential) hypertension without any such disease. This may be due to increased prevalence of obesity, changed food habits, ethnicity.

According to World Health Report 2002 \(^ {114}\), cardiovascular diseases (CVDs) will be the largest cause of death and disability by 2020 in India. In 2020 AD, 2.6 million Indians are predicted to die due to coronary artery disease which constitutes 54.1 % of all CVD deaths. Nearly half of these deaths are likely to occur in young and middle aged individuals (30-69 years). Recently the
childhood hypertension in India has caught the attention of the health professionals.\(^{(84,137,178)}\)

Studies from various communities across India indicate increasing prevalence of hypertension amongst the children and adolescents.\(^{(2,27)}\) An increased body weight and sedentary lifestyle show strong association with hypertension amongst the children and adolescents.\(^{(172)}\)

Health Professionals all over the world have been involved in understanding the pathophysiology of high blood pressure amongst children and adolescents with sedentary lifestyle and increased body weight or adiposity. A number of pathophysiological changes like increased sympathetic activity, decreased arterial elasticity and hyperinsulinaemia associated with increased body mass and unhealthy lifestyle have been implicated in the pathogenesis of hypertension.\(^{(161,171)}\)

However, not much is reported about the relationship of the ethnicity and body composition with blood pressure in the Indian children and adolescents. Studies also report that differences exist in the aetiopathogenesis of disease across the varied ethnic populations and age groups.\(^{(145,188)}\)
Aims & Objectives

Aims:

1. To study the distribution of blood pressure in a local sample population of Gujarati ethnic school going children and adolescents.
2. To determine association of variation in blood pressure with ethnicity, physical activity, diet, family history of hypertension and related disorders, history of illness (if any), socioeconomic status and, 
3. To determine association of variation in blood pressure with the anthropometric parameters like height, weight, and the body composition (body fat percentage, body fat mass, lean body mass etc.) in the above mentioned population.

Objectives:

As per our knowledge, there no such study has been done especially in Gujarati ethnic school going children of this region of India. The information gathered and investigated in this study may be helpful to other researchers in this field. This study may help to get the aetiopathogenesis of hypertension amongst children and adolescents in the Gujarati ethnic sample population which would help in the formulation of rationale and effective strategies for preventing and managing high blood pressure in Gujarati children and adolescents.