Chapter 6

CONCLUSION
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1. Sleep duration, physical fitness and body composition start affecting the cardiovascular determinants of blood pressure in the Gujarati adolescents at an age as early as late adolescence.

2. Gender differences exist in the effects of lifestyle and body composition on the cardiovascular determinants of blood pressure amongst Gujarati adolescents which are probably due to the effects of sex hormones released at puberty.

3. Inadequate sleep duration does not influence the resting blood pressure of Gujarati adolescents during the late adolescence but it does predispose them to hypertension by causing a rise in adiposity, a rise in vascular reactivity and a fall in vascular distensibility which are considered to be risk factors for hypertension.

4. Physical fitness rather than physical activity is found to be the better determinant of cardiovascular health in this population and therefore focus should be more on improving the physical fitness of adolescents than simply increasing the physical activity level. Higher Physical fitness is predominantly associated with a greater vascular distensibility in boys and a lower sympathetic vascular tone and lower vascular reactivity in girls.

5. Both total as well as visceral adiposity influence the cardiovascular determinants of blood pressure in Gujarati community at an age as early as late adolescence. Increase adiposity is predominantly associated with a decrease in vascular
distensibility in boys and an increase in sympathetic vascular tone and sympathetic vascular reactivity in girls. Girls are also predisposed to left ventricle hypertrophy due to an exaggerated vascular reactivity associated with adiposity.

6. Lean body mass also affects the cardiovascular determinants of blood pressure mainly the vascular reactivity to stress, sympathetic vascular tone and vascular distensibility in both boys and girls. In girls, lean body mass is also found to be associated with an increase in left ventricle mass.

What this study adds to the current knowledge?

1. This is the first study to our knowledge which indicates the effect of sleep duration on cardiovascular reactivity amongst adolescents.

2. This is the first study which indicates the effects of lifestyle and body composition on the cardiovascular determinants of blood pressure in Gujarati ethnic adolescents. This may help in formulating preventive and therapeutic strategies for the Gujarati community.

Limitations & Future Perspectives:

1. Though the results of the current study indicate towards various possible mechanisms by which lifestyle factors studied and body composition may affect the blood pressure and lead to hypertension amongst Gujarati adolescents, longitudinal and experimental study is required to confirm these mechanisms.
2. The study has used subjective measures for assessment of lifestyle factors and indirect measures for studying various physiological variables and functions like visceral fat and vascular distensibility respectively. Therefore studies involving objective measurements of the lifestyle factors like physical direct measurements are required to know the exact scenario regarding the changes in physiological functions.