CHAPTER IV

SUMMARY AND CONCLUSION
In the foregoing pages the results of the present study have been dealt with elaborately. In the present chapter, an attempt has been made to summarize and focus the salient features observed in the present study.

Growth and development occupy a central place in the study of individual differences in structure and function within the human species (Tanner, 1960). Data on physical growth of a population helps to know the variation in the growth pattern of children at different age levels. As compared to Western countries, very few growth studies of different populations of India have been carried out. In a country like India where various ethnic groups live, it becomes essential to carry out comparative studies and to find out the variability between the populations with regards to their physical characteristics, maturity and rate of growth as seen during childhood and adolescent period and to know the growth trends of differences and similarities in the populations.

Growth studies of children are necessary from time to time to assess the potential physical health of the country, particularly in an underdeveloped country like India. Unfortunately, no attempt to know the rate and patterns of physical growth of the Chhattisgarhi girls has been made so far. This is the first report on any population of Chhattisgarh with hopes that, it will provide the base line information on the physical growth of normal children of this region.
The present study entitled 'Growth Trends of Saryupari Brahmin Girls of Chhattisgarh' has been conducted on a cross-sectional sample of S.B. girls, an endogamous caste group residing in Chhattisgarh. Representative sample of 1043 girls have been included in the study ranging between 5 to 19 years of age, which have been further divided into 14 age groups in class intervals of one year. 37 somatometric measurements (including skinfold measurements) have been taken on each subject. Standard statistical methods are employed to interpret the data in numerical terms. The sample of the present study is drawn from middle income group, and all of them are vegetarian in their dietary habits.

The present study reveals the following few facts.

The analysis of the present data reveals that the various variables under study show a tendency to increase with the increase of age. Broadly speaking, most of the variables follow a more or less similar rhythm of growth.

Chhattisgarhi S.B. girls show three distinct growth spurts in their growth period from 5 to 19 years. The analysis of the present study in terms of growth indicates that the maximum velocity of growth is observed by each of the variable under study during adolescent period. Study of velocity curves reveal that the adolescent spurt period of S.B. girls of Chhattisgarh lasts for about two to three years i.e., between 12 to 14 years. Most of the variables show
highest peak velocity corresponding to adolescent spurt at the age of 17 years. It is further observed that most of the variables of the present study also show pre-adolescent and post-adolescent growth spurt in the population under study between the ages of 7 to 10 years and 15 to 17 years respectively.

The observations of the data reveal that in general, Chhattisgarh S.B. girls confirm the well-known law of cephalo-caudal differential growth pattern. It also confirms the proximo-distal pattern of increase. It is further observed from the values of growth gradients of different biological variables that more than 60% of total growth is achieved before the age 6 years in S.B. girls of Chhattisgarh for all characters except body weight and skinfold measurements (except triceps skinfold). During the period under study, the maximum amount of growth occurs in body weight i.e. 58.94% of total growth.

To study the proportional growth of the S.B. girls of Chhattisgarh regression equations have been fitted for certain important biological pairs of the body. Some indices have also been calculated. The growth trends of various body proportions of the girls under study changes considerably from early childhood to maturity due to differential growth of various measures. Proportions like sitting height: upper extremity index, sitting height: lower extremity index and
biceps : triceps skinfold index maintains a consistent relationship throughout the observed period of growth. The Rohrer's index and other indices indicate a trend towards the change in physical body type from stocky to more slender build.

High positive correlations were found to exist between different body segments at all age levels in S.B. girls of Chhattisgarh showing a direct relationship between different biological variables. Stature is more correlated variable with body weight. It is also observed that skinfold measurements show higher positive correlation with body weight in the later period than in early period of childhood. It is interesting to note that triceps skinfold is more correlated to biceps skinfold than to subscapular, forearm and calf skinfolds. Extremely high positive correlations between arm circumference and body weight is also very significant.

Height and weight data of the present study has been compared with some of the populations of India and abroad, to ascertain the position of S.B. girls of Chhattisgarh in the field of human growth. S.B. girls of Chhattisgarh are lighter and shorter than the girls of other populations of the world selected for comparison except Chinese girls, who are shorter in stature than S.B. girls of Chhattisgarh. This may
be ascribed to the difference in the genetic background and being members of different ethnic stocks. S.B. girls of Chhattisgarh are lighter in weight than the Maharashtrian, Kalita, Manali Rajpur, Oriya urban and ICAR (Pooled) girls. Maharashtrian and Oriya urban girls are taller than the S.B. girls of Chhattisgarh. The differences may be due to genetic factors in addition to socio-economic, dietary and other environmental factors.

In general, it may be said that growth trends of S.B. girls of Chhattisgarh are in line with the other similar studies on different populations of India so far carried out. It may be suggested here that such studies in different Indian population groups be done so that a comparative study may be made which might help in understanding how far variations in growth occur as a result of climate, different breeding patterns and changing food habits. It would be an excellent study if this type of work is done on the Saryupari Brahmin girls of Uttar Pradesh from where Chhattisgarh Saryupari Brahmins have migrated because the said two populations live in two different regions with different environmental and dietary habits. It has also been suggested that a similar type of study be also conducted on the Saryupari Brahmin boys of Chhattisgarh so that the sex differences can also be determined.