Chapter – V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

To keep healthy is always a challenging task. The causes leading to ill health are not all the same for every population. The living conditions, the socio-economic status etc. have a lot to play in this regard. Mostly inactivity, over-nutrition, and pollution in various forms become the big issues for the urban sedentary class leading to many health hazards. Whereas, malnutrition over-activity, and unhygienic surroundings causing serious health problems for the rural and backward classes. The issues become more vulnerable when it comes to tribal population.

Till the recent past, the tribals were not given a due place in the society. They lived a natural life of their own. Nowadays attempts are on, from the part of the authorities to uplift the living conditions of the tribals. But, it is pity that even after the implementation of many schemes, at the cost of many hundred crores, we have not reached the near expected levels. However, it cannot be ignored that the aids in the form of food articles might have made a positive turn in case of school going tribal children. But it is a fact that the non-availability of relevant data makes it hard for the authorities while formulating effective schemes and projects for the tribals.

Genuine and extensive efforts are yet to be put in to obtain a clear picture of this suffering population. The scholar, here, has made a sincere effort to draw the conclusions on the health related fitness and nutritional status of the tribal children of Wayanad district in Kerala.
The subjects for the study were two thousand one hundred school going children from Wayanad district, Kerala between the age groups nine and thirteen randomly selected from both the sex, equal in number in all respects/parameters. Out of the total of two thousand one hundred children, each tribal group namely Paniyar, Kurichchiar and Kurumar were equally represented by one third strength (i.e. 700 each).

The following variables were selected for the assessment of health related physical fitness:

(i) Cardio-Respiratory Function. (One Mile Run)
(ii) Abdominal and low back hamstring musculo-skeletal function (Modified timed Sit-Up and Sit and Reach)
(ii) Body composition (Skinfold measurements)

The nutritional status was assessed by selecting the variables such as:

(i) Age (in completed years)
(ii) Standing height (measured in centimeters)
(iii) Weight (measured in Kilo gram)

Indices selected for assessing the nutritional status were “weight for age” and “height for age”.

Gomez classification was followed to grade the children into various groups according to their nutritional status.

The data were collected from all the subjects from the Government Schools of Wayanad District, Kerala.
The **results**, obtained on the basis of analysis of data, were:

1. Significant improvement in standing height was noticed with the progression of age for both the boys and girls.

2. No differences between the tribal groups were observed. The findings were applicable for both the sexes.

3. As in the case of height, the body **weight** also increased with the advancement of age.

4. No significant change was noticed between the tribal groups. No difference in the pattern was obtained, except for the girls of eleven years old, where a stagnation in their body weight was noticed.

5. Endurance performance of the children was improved with the advancing age up to 11 years.

6. At the age of eleven, both girls and boys showed a dismal performance in their one mile run test.

7. Girls showed an improvement in their endurance performance at the age of thirteen, after slowing down at the age of twelve. But the boys even at the age of thirteen failed to improve their performance in comparison with that of eleven year olds.

8. No difference between the tribal groups was significant.

9. A significant difference in skinfold Thickness was found with the advancing age in case of girls.

10. At the age of eleven, the girls showed no difference in their skin fold measurements. The fat percentage seemed to have increased in their twelfth and thirteenth year.
11. Body fat of the boys decreased with their age till they reached 12 years. But an improved skinfold measurement was noticed at the age twelve, which was considerably in bigger dimensions.

12. No difference between the tribal groups was noticed in skinfold thickness.

13. A below par performance was found in sit-ups by girls. No age group showed any exception.

14. No age based improvement was found in case of sit-up performance by boys. A mediocre performance was shown by all the groups of boys.

15. No tribal group difference was observed in sit-up performance.

16. A significant difference was found in sit and reach performance by the girls with their advance age, in the opposite direction.

17. The boys improved their flexibility – tested through sit and reach test – upto their reaching 12 years. No improvement in terms of flexibility was noticed after 11 years.

18. No tribal group deviated from general trends in sit and reach tests.

19. The assessment of skinfold (triceps) in case of females showed an increase in fat percentage with the progression of age.

20. Skinfold measurements on triceps in the case of boys was at no change status upto eleven years. The fat percentage seemed to have increased at the age twelve and an insignificant decrease was noticed at the age of thirteen.

21. No difference, as far as the tribal groups are concerned, was existing.

22. The “Height for Age” comparison with the NCHS standard did not show any significant difference either with the boys or girls.
23. While comparing the tribal children with the Gomez classification, it revealed that 39.9% females and 35.82% males fell into the different grades of malnutrition.

24. The nutritional status of the tribal school going children was seen better than expected.

25. Although the "weight-for-age" comparison of tribal children with the NCHS standards showed differences in the mean values, the differences were not great enough to establish a statistical significance.

26. The application of Gomez classification revealed that only 1.43% of children was at an absolute susceptibility to malnutrition, in case of girls, that of boys was only 0.35%.

27. The skinfold measurement showed a sudden increase in adipose tissues at the "rapid growth age" as in the case of other children.

Conclusions

On the basis of the findings of the study, the following conclusions may be drawn:

1. The tribal groups namely Paniyar, Kurichchiar and Kurumar did not differ significantly in any of the parameters selected.

2. In most of the variables such as height, weight etc. an improvement was observed with the advancement of age.

The suspected rapid growth age seemed to have a negative impact on the performance of both the boys and girls. This particular age group was found falling between eleven and thirteen years of age, in this contest.

4. Abdominal strength of the tribal children was found much below the average levels.
5. The flexibility of the tribal children was not found to be at a desirable range.

6. The height and weight of the tribal children were found matching with the "height for age" and weight for age" by NCHS standards.

7. With in the limitations of this study, the results obtained in the nutritional status revealed that the tribal children were not alarmingly falling in the malnutrition category.

**Recommendations**

On the basis of the conclusions drawn, the following recommendations have been made:

1. The remedial programme are to be formulated for the tribal children who are below the 25\(^{th}\) percentile in any of the fitness related test.

2. An extensive programme to identify the tribal children, who fall in the malnutrition category, should be carried out and which should be followed by the implementation of remedial measures.

3. The outstanding category among the tribal children in relation to the fitness activities shall be identified and nurtured for higher performances.

4. In order to improve the obvious weakness in flexibility and abdominal strength, the tribal children are to be subjected to special physical education / training programme.

5. The same study may be duplicated in the different districts of Kerala / India for obtaining a clear cut idea on the matters already probed.

6. The study may be repeated in other age groups of tribal children.

7. More nutritive supplements must be served with their daily menu in the schools to escape the malnutrition problems of tribal children.