CHAPTER 5

SUMMARY AND CONCLUSIONS

The research project entitled “A Study on Nerve Conduction Velocity in Athletes” was undertaken with the following aims.

- To study motor nerve conduction velocity (MNCV) in male athletes of aerobic group, anaerobic group & mixed group.
- Compare the MNCV of athletes of different groups with control group.
- To study the relationship (if any) of selected anthropometric variables with MNCV.

The study was conducted on two hundred subjects out of whom one hundred fifty was male athletes (of university/college level participation) of different sports/games and fifty non athletes aged between 18-25 years. The athletes were divided into following groups on the basis of their predominant energy system: (a) Aerobic group was comprised of long distance runners, cyclists (b) Anaerobic group was comprised of sprinters, weight Lifters (c) Mixed group was comprised of hockey players, football players, volleyball players.

As per the aims of the study, the subjects were tested for their motor nerve conduction velocity of the selected nerves of upper extremity (radial & ulnar nerve) and lower extremity (common peroneal & sural nerve) and anthropometric variables (body segment length/& breadth and circumference).
The results related to the anthropometric status reveal higher values of various segment lengths/breadths and circumferences in case of athletes than nonathlete subjects. The subjects of anaerobic group on an average exhibit greater values of anthropometric variables as compared to athletes of other groups. The average values of various circumferences of right side of the subject were slightly greater than the left in all the groups.

The results of motor nerve conduction velocity revealed normal values for various nerves of all the subjects of different groups but further it was found that athletes exhibit higher values than nonathletes. The subjects of anaerobic group on an average exhibit greater values of motor nerve conduction velocity as compared to athletes of other groups. The mean values of motor nerve conduction velocity of various nerves of right side of the subject were slightly greater than the left in all the groups.

Analysis of Variance (ANOVA) and Scheffe post hoc test has been used to identify the location of significant differences of motor nerve conduction velocity and anthropometric variables between various groups. A significant difference was found when control group was compared with different groups of athletes for motor nerve conduction velocity and various anthropometric variables.

To find the relationship of selected anthropometric variables with motor nerve conduction velocity, correlation was applied and results revealed significant relationship between circumferences, segments lengths and breadths and motor nerve conduction velocity.

The results point to the fact that athletes demonstrate better neurophysiologic capabilities than the nonathletes. The training programme
has resulted in significant changes in the neurophysiologic abilities of athlete. The results of the present study further indicate that these neurologic variables (i.e. motor conduction velocity) along with anthropometric variables assume significance during the performance of athletes.

Thus, the results of this study shows that a further research work will be needed to carry on a large number of elite athletes of specific games/sports with additional nerves and variables of neurophysiologic-EMG, SNCV and MNCV like amplitude, latency etc.