The children living in Adivasi (Tribal) areas are mostly suffering from malnutrition and they also have poor health due to the lack of knowledge, insufficient facilities, bad habits or improper lifestyle, poor social development and poverty. The research studies conducted on tribal populations indicate that these people are socially and economically disadvantaged (Singh and Rajyalakshmi, 1993 and Basu, 1993). Moreover, the diet taken by these communities is also nutritionally deficient (Singh et al., 1987). Therefore, it is necessary that for all-round development of the Adivasi (Tribal) students—the basic components of health and fitness be stressed upon. As yoga supports for improving health related fitness of civilized children, its similar role for Adivasi children is assumed to be possible. Cardiorespiratory fitness refers to the fitness of heart, lungs, and blood vessels. Poor state of cardiorespiratory fitness directly increases the risk of one’s stamina and makes initiation of heart disease, diabetes and cancer in childhood. To get rid of these ailments, medical sciences contribute a lot in providing best treatment, but such a medical treatment is not equally available to every children. However, supportive researches in yoga and allied disciplines indicate yoga not only very safe for one’s heart, but also for achieving fitness of lungs. Amazingly, it also improves a better control over one’s mind that may lead to good mental health.

Despite the fact that health benefits can be achieved through yoga; these practices have not been extensively explored in Adivasi children. The research reports indicate health deprivation in Adivasi communities; therefore, the investigator sought to determine the effect of pranayama, which is one of important steps of yoga, on cardio-respiratory function and psychological...
efficiency in Adivasi students. There are number of studies published that indicates importance of yoga in maintaining health. This makes a strong base that yoga may be of immense use to rehabilitate and to promote the positive health at physical, mental, social and spiritual levels among the Adivasi school students. Hence it was considered appropriate by the researcher to investigate effectiveness of selected Pranayama techniques (yoga breathing exercise) in controlling cardio-respiratory functions and mental health.

To achieve the objectives of this study one hundred twenty school students (n=120; n₁=60 boys & n₂ = 60 girls), age range of 14–16 years, from government ashram high school Nanded, (Maharashtra), were selected randomly as sample by employing Fishers Random Table. All the subject of different experimental and control groups were exposed to cardio-respiratory function variables and mental health test to record the pre test data. After completion of pre test, in addition to regular school schedule the subjects enrolled in experimental group were given pranayama training. The experimental group was given pranayama training for duration of eight weeks for one hour every day. The Sundays and holidays were excluded from the training period. The subjects participated in control group were not allowed to participate in the pranayama training but were engaged in physical activities for one hour daily for eight weeks i.e. the total duration of experiment. After the treatment or training period of eight-week was over, the posttest was conducted for yoga and control group to assess cardiorespiratory function and psychological efficiency variables.

To find out the effect of pranayama training following statistical techniques were employed:

- For cardiorespiratory variables 2 x 2 x 2 x 8 Factorial ANOVA
- For psychological efficiency 2 x 2 x 2 x 7 Factorial ANOVA.
- Scheffe’s post hoc test
The statistical analysis showed that for boys, no significant difference was observed between pranayama and control groups in Standing Height (Comparative difference = 0.07, p > 0.05); similar result (Comparative difference = 0.08, p > 0.05) was evident in case of girls, which indicates boys possess more standing height than the girls (Comparative difference = 0.26, p < 0.05). For boys, significant enhancement was observed in pranayama and control groups on Body weight (Comparative difference = 0.22, p < 0.05); similar result (Comparative difference = 0.20, p < 0.05) was evident in case of girls, which indicates boys possess more Body weight than the girls (Comparative difference = 0.23, p < 0.05). For boys, significant variation was observed in pranayama group on Body mass index (Comparative difference = 0.23, p < 0.05); however, no significant change was evident for girls (Comparative difference = 0.14, p > 0.05), which in turn indicates boys possess more Body mass index than the girls (Comparative difference = 0.21, p < 0.05). For boys, noteworthy reduction was observed between pranayama group on Respiratory rate (Comparative difference = 0.30, p < 0.05); however, noteworthy reduction was also evident for girls (Comparative difference = 0.25, p < 0.05), which also indicates boys possess similar Respiratory rate like girls (Comparative difference = 0.09, p > 0.05). For boys, significant improvement was observed in pranayama group on Vital capacity (Comparative difference = 0.29, p < 0.05); however, significant improvement was also evident for girls (Comparative difference = 0.26, p < 0.05), which in turn indicates boys possess similar Vital capacity like girls (Comparative difference = 0.013, p > 0.05). For boys, significant improvement was seen in pranayama group on PEFR (Comparative difference = 0.36, p < 0.05); however, significant improvement was also evident for girls (Comparative difference = 0.34, p < 0.05) (Fig. 4.6), which also indicates that boys possess similar Peak exploratory flow rate like girls (Comparative difference = 0.17, p > 0.05). For boys, significant reduction was recorded in pranayama group on Pulse rate (Comparative difference = 0.41, p < 0.01). However, significant reduction was also evident for girls (Comparative difference = 0.36, p < 0.05) (Fig. 4.7). This comparison also indicates that boys possess less Pulse rate than girls.
(Comparative difference =0.24, p<0.05). For boys, key increase was seen in group on Chest expansion (Comparative difference =0.32, p<0.05). However, noteworthy increase (Comparative D =0.28, p<0.05) was also evident in case of girls (Fig. 4.8). This comparison also indicates that boys possess higher Chest expansion ability than girls (Comparative difference =0.22, p<0.05). In case of mental health and its dimensions result showed that –Girls possess higher Positive Self Evaluation ability than boys (Comparative difference =0.21, p<0.05). However, boys possess more Perception of Reality (Comparative difference =0.23, p<0.05) and develop Integration of Personality than the girls (CD=0.22, p<0.05). The comparison also indicates that boys possess similar Autonomy (Comparative difference =0.15, p>0.05), Group Oriented Attitudes (CD=0.011, p>0.05) and Environmental Mastery like girls (Comparative difference =0.18, p>0.05). For boys, significant improvement was observed in pranayama group on Mental health (Comparative difference =0.35, p<0.05). However, significant increase (Comparative difference =0.39, p<0.05) was also evident in case of girls. This comparison also indicates that girls possess higher Mental health ability than boys (Comparative difference =0.28, p<0.05). The results of this study help to warrant the following conclusion: Pranayama training could not influence Standing Height; however, it could facilitate the height as a process of growth and development of the adivasi students. The training of pranayama also facilitates the growth pattern of the adivasi youths in improving body weight including enhanced body mass index. Moreover, boys had more height, weight and body mass index as compared to the girls of same age group. Pranayama helped to reduce Respiratory rate and pulse rate of the adivasi students, whereas improved vital capacity, peak exploratory flow rate and chest expansion ability irrespective of sex categories. Moreover, the boys possess lower respiratory rate and pulse rate than the girls. In case of vital capacity, peak exploratory flow rate and chest expansion, the performance of boys was superior to the girls. Thus, Pranayama alone could improve overall cardiorespiratory function of the adivasi students.