ABSTRACT

The primary objective of the study has to examining the effects of Therapeutic exercise and Health-Related Fitness Programme on Physiological Efficiencies and Health Outcomes among Young Adults. Therapeutic exercise and Health-Related Fitness programme is a well systematic structured programme of exercises. The benefits of Therapeutic exercise are well documented and this research will continue to prove that it is an important training method for the improvement of young adult’s sports performance. The primary aim of the present study was effects of Therapeutic exercise and Health-Related Fitness programme to improvement physiological efficiencies and Health Outcomes among young adults. Investigator collected data from 40 male physical education young adults as an experimental group who was studying in M.P.Ed. From School of educational science, Swami Ramanand Teerth Marathwada University Nanded and 40 other young adults students as an experimental group was selected in the form of pre-test and post-test for present study. The age of the subject were ranged between 18-35 years. Training was given to the both experimental groups. They completed an informed consent document to participate in the study. The age, height, weight, BMI, Heart Rate, Respiratory Rate, Breath Holding Capacity, Blood pressure, and Health Outcome of all the subjects were measured in S.R.T.M. University campus sports complex. In this study Treadmill-Walking, Adler-running, jogging, climbing, jumping row, slight weight training, and cross country running, waking, jumping, throwing, speed ply training, slight weight training, and Static stretching exercise were selected to improve physiological efficiencies and Health Outcomes among young adults. The analysis of data was done using Mean. Standard Deviation, and ANCOVA (Analysis of Covariance) and the level of significant were set up at 0.05 level of confidence. The training programme was planned for 12 weeks 4 days a week and 60 minutes a day for 12 weeks. In the exercise session warm-up period were approximately 15 minutes, included walking, jogging and combine calisthenics type stretching exercises and progressive aerobic activity. Then main activity period up to 60 minutes many Treadmill-walking, Adler-running, jogging, climbing, jumping row, cross country, running, waking, throwing, speed ply training, slight weight training and Recreation Activities were
involved. During main session students were trained according to protocol of three sets, 8-12 repetitions and 3-5 minutes break, between each set training programs were created in the frame of these criteria. After the main session cool-down period was 10 minutes including combining active and passive stretching exercise and light jogging was included. The recognition Committee of physical education, Swami Ramanand Teerth Marathwada University was approved the study prior to its.

The first hypothesis of the study was that there would be significant difference of the therapeutic exercise and health Related Fitness programme on physiological efficiencies with respect to RHR among young adults. The mean scores (SDs) of Pre-test was 70.72 (5.10) and the post test was 67.17(6.57) recorded respectively of selected physiological efficiencies with respect to RHR of pre and post-test of Therapeutic exercise group. Meanwhile, The mean score (SDs) of Pre-test was 70.35(5.44) and the post test was 66.85(5.64) recorded respectively of selected physiological efficiencies with respect to RHR of pre and post-test of Health-Related Fitness Programme. The result reveals that No Significant difference of Therapeutic exercise and Health-Related Fitness Programme (F=1.77,P<0.05) was found on Heart Rate of physiological efficiencies of young adults . The hypothesis of the study regarding therapeutic exercise and health Related Fitness programme on physiological efficiencies with respect to RHR among young adults was rejected.

It had been hypothesized that there would be significant difference of the therapeutic exercise and health Related Fitness programme on physiological efficiencies with respect to RR among young adults, the mean score (SDs) of Pre-test was 20.09 (4.90) and the post test was 18.02 (4.12) respectively of selected physiological efficiencies with respect to Respiratory rate of pre and post-test of Therapeutic exercise. Meanwhile, the mean score (SDs) of Pre-test was 21.05 (4.44) and the post test was 29.22(4.440 recorded respectively of selected physiological efficiencies with respect to Respiratory rate of pre and post-test of Health-Related Fitness Programme. Statistically Significant Effects of Therapeutic exercise and Health-Related Fitness Programme on Respiratory rate of physiological efficiencies of young adults was found (F= 14.30P<.05) Significant difference of Therapeutic exercise and Health-Related Fitness
Programme was found on physiological efficiencies with respect to **Respiratory rate** among young adults. The hypothesis regarding therapeutic exercise and health Related Fitness programme on physiological efficiencies with respect to RR among young adults was accepted.

It has been hypothesized that, there would be significant difference of the therapeutic exercise and health Related Fitness programme on physiological efficiencies with respect to BHC (inspiration) among young adults. The mean scores of Pre-test was 40.85 (7.80) and the post test was 42.57 (6.89) recorded respectively of selected physiological efficiencies with respect to Breath holding capacity (after inspiration) of pre and post-test of Therapeutic exercise group. Meanwhile, the mean score (SDs) of Pre-test was 47.07 (7.30) and the post test was 47.87 (7.98) recorded respectively of selected physiological efficiencies with respect to Breath holding capacity (inspiration) of pre and post-test of Health-Related Fitness Programme. Insignificant difference of Therapeutic exercise and Health-Related Fitness Programme on Breath holding capacity (inspiration) of physiological efficiencies of young adults was found (F=0.67, p< 0.05). The hypothesis regarding therapeutic exercise and health Related Fitness programme on physiological efficiencies with respect to BHC (expiration) among young adults was rejected.

It had been hypothesized that There would be significant difference of the therapeutic exercise and health Related Fitness programme on physiological efficiencies with respect to BHC (Expiration) among young adults, the mean scores of Pre-test was 45.15 (6.35) and the post test was 46.5 (6.35) recorded respectively of selected physiological efficiencies with respect to Breath holding capacity (expiration) of pre and post-test of Therapeutic exercise group. Meanwhile, the mean score (SDs) of Pre-test was 39.57 (21.06) and the post test was 43.82 (17.18) recorded respectively of selected physiological efficiencies with respect to Breath holding capacity (expiration) of pre and post-test of Health-Related Fitness Programme. Significant difference of Therapeutic exercise and Health-Related Fitness Programme on Breath holding capacity (Expiration) of physiological efficiencies of young adults was found (F=13.25<p, 0.05). This means that Therapeutic exercise as greater significant for improve the Breath holding capacity
as compare than Health-Related Fitness programme among young adults. The hypothesis of the regarding therapeutic exercise and health Related Fitness programme on physiological efficiencies with respect to BHC (Expiration) among young adults was accepted.

It had been hypothesized that, there would be significant difference of the therapeutic exercise and health Related Fitness programme on physiological efficiencies with respect to SBP among young adults. the mean scores of Pre-test was 124.12 (8.68) and the post test was 121.92 (9.06) respectively of selected physiological efficiencies with respect to Systolic Blood pressure of pre and post-test of Therapeutic exercise group .Meanwhile, the mean score (SDs) of Pre-test was 129.12 (11.44) and the post test was 125.25 (16.86) respectively of selected physiological efficiencies with respect to Systolic Blood pressure of pre and post-test of Health-Related Fitness group. Significant Effects of Therapeutic exercise and Health-Related Fitness group on Systolic Blood pressure of physiological efficiencies of young adults was found (F- 4.9 < P 0.05). This means that there was significant difference of Therapeutic exercise and Health-Related Fitness Programme on physiological efficiencies with respect to Systolic Blood pressure among young adults. The hypothesis of the study regarding therapeutic exercise and health Related Fitness programme on physiological efficiencies with respect to SBP among young adults was accepted.

It had been hypothesized that, there would be significant difference of the therapeutic exercise and Health-related fitness programme on physiological efficiencies with respect to DBP among young adults. The mean score (SDs) of Pre-test was 76.4(5.06) and the post test was 76.72 (8.29) recorded respectively of selected physiological efficiencies with respect to Diastolic Blood pressure of pre and post-test of Therapeutic exercise group. However, the mean score of Pre-test was 77.25 (6.70) and the post test was 75.55 (14.49) recorded respectively of selected physiological efficiencies with respect to Diastolic Blood pressure of pre and post-test of Health-Related Fitness Programme. Insignificant Effects of Therapeutic exercise and Health-Related Fitness Programme on Diastolic Blood pressure of physiological efficiencies of young adults was found (F = 0.052, < P 0.05). That means that there were insignificant
differences of Therapeutic exercise and Health-Related Fitness Programme on physiological efficiencies with respect to Diastolic Blood pressure among young adults. The hypothesis regarding therapeutic exercise and Health-Related Fitness programme on physiological efficiency with respect to DBP among young adults was rejected.

It had been hypothesized that there would be significant difference of the therapeutic exercise and health Related Fitness programme on Health outcomes with respect to health status among young adults. The mean score of Pre-test was 2.97 (1.20) and the post test was 2.5 (1.19) recorded respectively of selected Health Outcomes with respect to Health Status of pre and post-test of Therapeutic exercise. However, the mean score (SDs) of Pre-test was 2.77 (1.02) and the post test was 2.82 (0.90) recorded respectively of selected Health Outcomes with respect to Health Status of pre and post-test of Health-Related Fitness programme. Insignificant differences of Therapeutic exercise and Health-Related Fitness programme on Health Status of Health Outcomes of young adults was found (F = 1.46). The hypothesis regarding therapeutic exercise and Health-Related Fitness programme on Health outcomes with respect to health status among young adults was rejected.

It had been hypothesized that, there would be significant difference of the therapeutic exercise and health Related Fitness programme on Health outcomes with respect to rate of health among young adults. The mean score (SDs) of Pre-test was 2.75 (1.12) and the post test was 2.67 (1.11) recorded respectively of Health Outcomes with respect to Rate of Health of pre and post-test of Therapeutic exercise. Meanwhile, the mean score of Pre-test was 2.57 (1.21) and the post test was 2.52 (1.27) recorded respectively of Health Outcomes with respect to Rate of Health of pre and post-test of Health-Related Fitness programme. Insignificant Effects of Therapeutic exercise and Health-Related Fitness group on Rate of Health of Health Outcomes of young adults was found (F = 0.04). The hypothesis regarding therapeutic exercise and health Related Fitness programme on Health outcomes with respect to rate of health among young adults was rejected.
It had been hypothesized that, there would be significant difference of the therapeutic exercise and health Related Fitness programme on Health outcomes with respect to activities among young adults. The mean score of Pre-test was 13.10 (3.70) and the post test was 12.98 (3.46) recorded respectively of selected Health Outcomes with respect to Activities of pre and post-test of Therapeutic exercise. Meanwhile, The mean score (SDs) of Pre-test was 12.38 (2.60) and the post test was 12.63 (2.95) recorded respectively of Health Outcomes with respect to Activities of pre and post-test of Health-Related Fitness programme. No Significant Effects of Therapeutic exercise and Health-Related Fitness programme on Activities of Health Outcomes of young adults was found (F= 0.01). The hypothesis regarding therapeutic exercise and health Related Fitness programme on Health outcomes with respect to activities among young adults was rejected.

It had been hypothesized that, there would be significant difference of the therapeutic exercise and health Related Fitness programme on Health outcomes with respect to problem of regular daily physical health among young adults. The mean score of Pre-test was 2.52 (1.06) and the post test was 2.3 (1.18) respectively of selected Health Outcomes with respect to Problem of Regular daily Physical Health of pre and post-test of Therapeutic exercise group. Meanwhile, the mean score (SDs) of Pre-test was 2.47 (0.87) and the post test was 2.62 (0.74) recorded respectively of selected Health Outcomes with respect to Problem of Regular daily Physical Health of pre and post-test of Health-Related Fitness group. Insignificant difference of Therapeutic exercise and Health-Related Fitness groups on Problem of Regular daily Physical Health of Health Outcomes of young adults was found (F= 0.42). The hypothesis regarding therapeutic exercise and health Related Fitness programme on Health outcomes with respect to problem of regular daily physical health among young adults was rejected.

It had been hypothesized that, there would be significant difference of the therapeutic exercise and health Related Fitness programme on Health outcomes with respect to emotional problem among young adults. The mean scores of Pre-test was 2.25 (0.84) and the post test was 1.65 (0.92) recorded respectively of Health Outcomes with respect to Emotional Problem of pre and post-test of Therapeutic exercise group.
Meanwhile, the mean score (SDs) of Pre-test was 1.75 (1.00) and the post test was 2.02 (0.73) recorded respectively of selected Health Outcomes with respect to Emotional Problem of pre and post-test of Health-Related Fitness programme. Significant Effects of Therapeutic exercise and Health-Related Fitness programme on Emotional Problem of Health Outcomes of young adults was found (F= 4.56). This means that there were significant effects of Therapeutic exercise and Health-Related Fitness programme on Health Outcomes with respect to Emotional Problem among young adults. The hypothesis regarding therapeutic exercise and health Related Fitness programme on Health outcomes with respect to emotional problem among young adults was accepted.

It had been hypothesized that There would be significant difference of the therapeutic exercise and health Related Fitness programme on Health outcomes with respect to Normal social activities among young adults. The mean score (SDs) of Pre-test was 2.90 (1.17) and the post test was 3.12 (1.28) recorded respectively of Health Outcomes with respect to Normal Social Activity of pre and post-test of Therapeutic exercise. Meanwhile, the mean score (SDs) of Pre-test was 3.07 (0.99) and the post test was 2.85 (0.86) recoded respectively of selected Health Outcomes with respect to Normal Social Activity of pre and post-test of Health-Related Fitness programme. No Significant Effects of Therapeutic exercise and Health-Related Fitness programme on Health Normal Social Activity of Health Outcomes of young adults was found (F= 0.34). The hypothesis regarding therapeutic exercise and health Related Fitness programme on Health outcomes with respect to Normal social activities among young adults was rejected.

It had been hypothesized that There would be significant difference of the therapeutic exercise and health Related Fitness programme on Health outcomes with respect to level of body pain among young adults. the mean scores of Pre-test was 3.02 (1.45) and the post test was 3.27 (1.32) respectively of selected Health Outcomes with respect to Level of Body Pain of pre and post-test of Therapeutic exercise group. Meanwhile, the mean score (SDs) of Pre-test was 3.5 (1.08) and the post test was 2.8 (1.24) recoded respectively of selected Health Outcomes with respect to Level of Body Pain of pre and post-test of Health-Related Fitness programme. Statistically Significant
difference of Therapeutic exercise and Health-Related Fitness group on Level of Body Pain of Health Outcomes of young adults was found ($F=3.35, P<0.05$). That means that Therapeutic exercise and Health-Related Fitness group on Health Outcomes the body pain among young adults. Health related fitness programme was more beneficial to reduce level of body pain as compared than therapeutic exercise. The hypothesis regarding therapeutic exercise and health Related Fitness programme on Health outcomes with respect to level of body pain among young adults was accepted.

It had been hypothesized that, there would be significant difference of the therapeutic exercise and health Related Fitness programme on Health outcomes with respect to pain with normal work among young adults. the mean score of Pre-test was 1.92 (1.02) and the post test was 2.37 (1.29) recoded respectively of selected Health Outcomes with respect to Pain with Normal work of pre and post-test of Therapeutic exercise group. Meanwhile, the mean score (SDs) of Pre-test was 2.77 (1.09) and the post test was 2.47 (0.87) recoded respectively of selected Health Outcomes with respect to Pain with Normal work of pre and post-test of Health-Related Fitness programme. No Significant Effects of Therapeutic exercise and Health-Related Fitness programme on Pain With Normal work of Health Outcomes of young adults was found ($F=1.41$). The hypothesis regarding therapeutic exercise and health Related Fitness programme on Health outcomes with respect to pain with normal work among young adults was rejected.

It had been hypothesized that, there would be significant difference of the therapeutic exercise and Health-Related Fitness programme on Health outcomes with respect to level of feeling among young adults. The mean score of Pre-test was 33.58 (6.04) and the post test was 29.43 (7.06) respectively of selected Health Outcomes with respect to Level of Feeling of pre and post-test of Therapeutic exercise. Meanwhile, the mean score (SDs) of Pre-test was 27.05 (5.82) and the post test was 30.18 (6.48) respectively of Health Outcomes with respect to Level of Feeling of pre and post-test of Health-Related Fitness programme. Significant difference of Therapeutic exercise and Health-Related Fitness programme on Health Outcomes with respect to Level of Feeling of young adults was found ($F=3.90$). That means that there was significant difference of
Therapeutic exercise and Health-Related Fitness programme on Health Outcomes with respect to Level of Feeling among young adults. Therapeutic exercise and Health-Related Fitness programme on Health Outcomes were significantly increasing the health outcomes with respect to level of feeling. Health-Related Fitness programme was more effective to enhance the level of feeling but therapeutic exercise decrease the level of felling with respect to Health Outcomes. The hypothesis regarding therapeutic exercise and health Related Fitness programme on Health outcomes with respect to level of feeling among young adults was accepted.

It had been hypothesized that, there would be significant difference of the therapeutic exercise and health Related Fitness programme on Health outcomes with respect to problem of interfered social activity among young adults. The mean score of Pre-test was 2.00 (1.32) and the post test was 2.47 (1.24) recoded respectively of Health Outcomes with respect to Problem of Interfered Social Activities of pre and post-test of Therapeutic exercise group. Meanwhile, the mean score of Pre-test was 2.07 (1.14) and the post test was 2.32 (0.91) recoded respectively of selected Health Outcomes with respect to Problem Interfered Social Activities of pre and post-test of Health-Related Fitness programme. No Significant Effects of Therapeutic exercise and Health-Related Fitness programme on Problem of Interfered Social Activities of Health Outcomes of young adults was found (F= 1.31). The hypothesis regarding therapeutic exercise and Health-Related Fitness programme on Health outcomes with respect to problem of interfered social activity among young adults was rejected. This doctoral research can great contribute to future work in the field of sports sciences, health sciences, kinesiology, physiology, Physical education sports medicine to be of great use and importance to the sportsperson, physiotherapist, doctors and physical educationist as the same can be utilized in formulating the modalities in putting their knowledge acquired through devoted scientific investigations, analysis and interpretation of findings to use of all sports person. The results of this study may also help to contribute the prevention and reduction of injuries among football players. This research may Inform policies and practices designed to improve the awareness in volleyball players, coaches and physical educationist regarding the ill effects of injuries on sport performance, Results from this
study could be useful for policymakers, coaches sportsperson and physical educators as they work to construct programmes and policies regarding maintaining good health in the country. Having a clearer understanding of how sportsperson perform themselves in a sports competition, within a national context, it may also contribute to help the physical Educators, doctors, physiotherapist and coaches to know about the importance of correct technique thereby avoid the occurrence of injuries to human being and ensuring the peak for health. It may also provide insight to related experts will know about the benefit psychological and physiological characteristics for performance in predicting success of volleyball players. The results of the study would add further scholarly knowledge to the existing literature of sports medicine and sports sciences. Finally, this research may contribute to provide expertise guidance for a unique understanding of Therapeutic exercise and Health-Related fitness programme.