Chapter III
Methodology

This chapter explained the methodological details used to implement the study. Specifically, presented here are the general perspective and context of the study, an overview of the participants and a description of the procedures used in data collection, and an explanation of data analysis.

Demographic Information

The data was collected through respondents in the form of different descriptive tests. The demographic information about, age, height, weight etc. was obtained before seeking training.

Sampling Method:

Purposive sampling method was used, as the researcher selected young adults with a specific purpose.

Target of population

Two groups were targeted, Therapeutic exercise group and Health-Related fitness Programme. Forty young adults selected in therapeutic group, and 40 young adults considered health related physical fitness group. Training was given to both groups separately.

Research design:

The design in a research study refers to the researcher’s overall plan for answering the researcher’s question or testing the research hypotheses. This study involves a cross sectional, comparative pre and post-test of two group’s experimental research. Since only experimental group was taken by the investigator and there would be no control group so this study was conducted in a quasi-square experimental design. This explores and measures the Physiological efficiency and health outcomes within the environment and culture. Ultimately, the findings were increase the awareness of young adults regarding universal health and enhance the quality of health care in country.
Selection of variables:

The following variables were selected as follows.

A. Physiological Efficiency

1. Resting heart rate
2. Respiratory rate
3. Breath holding capacity (after inspiration)
4. Breath holding capacity (after expiration)
5. Blood Pressure
6. Body composition

B. Health Outcomes

Administration of the test

Pre and post-test were taken by the following procedure.

a. Resting heart rate: Resting heart rate of each subject was recorded before & after training. Before recording Resting heart rate the subject was instructed to remain lying on their bed to record the heart rate, pulse rate was recorded by the palpation at redial artery per minute. The score was express in number of pulse rate per minute.

b. Respiratory rate: The Respiratory rate of each subject was recorded before & after training. Before recording Respiratory rate the subject was instructed to remain lying on their bed in supine lying position. The tester was then record rate of respiration in units per minute by carefully watching the movements of the subjects abdominal. Total number of respiratory movement per minute was finally recorded.

c. Breath holding capacity (after inspiration): The breath holding capacity after inspiration was recorded before & after training. Before recording breath holding capacity after inspiration the students should be instructed to stand erect with leg bended, after getting signal the student was inhale air through his nostrils. Then the nose would be locked or closed with nose clip. The total time of air holding capacity after inspiration of the students was measured in seconds.

d. Breath holding capacity (after expiration): The breath holding capacity after expiration was recorded before & after training. Before recording breath holding
capacity after expiration the students should be instructed to stand erect with leg bended, after getting signal the student was exhale air through his nostrils. Then the nose would be locked or closed with nose clip. The total time of air holding capacity after inspiration of the students was measured in seconds.

e. **Blood Pressure:** The blood pressure is the pressure of the blood within the arteries. It is produced primarily by the contraction of the heart muscle.

f. **Body Composition:** Body composition is the proportions of muscle, bone, fat, and other tissue that make up an individual's total body weight. The body weight equals the fat plus the lean tissue (including water). It is usually expressed as a percentage

**Health outcomes:**

Assessing the health outcome, the medical short-form 36(mos-36) was develop by ware, snow, kosinski, gandek(1993), will be used It assesses eight health concept including: perceived general health (5 items); physical functioning (10 items) social functioning (2 items) body pain (2 items) Vitality (4 items) physical role (4 items) emotional role (4items) mental health (5 items).

**Tools of the study:**

Stopwatch, still tape, sphygmomanometer, weighing machine, stadia-meter, Spiro-meter, and health outcome questioner tools were used for data collection.

**Health-Related Fitness programme:**

Health-Related fitness programme were design by the investigator and the reliability and validity find out by the researcher on the basis of pilot study. The Health Related Fitness programme were planned for 4 days a week 60 minutes in a day for 12 weeks including 10 minutes warm up period and 05 minutes cooling down. The Health-related fitness programme includes running, waking, jumping, throwing, speed ply training, slight weight training. The training was performing in Departmental laboratory. All test measure in physical education department.
**Therapeutic Exercise:**

A therapeutic exercise was planned for 12 weeks, 4 days a week and 60 minutes a day. Exercise that use large muscles groups that can be maintained continuously and are aerobic in nature. These exercises standing exercises, controlled leash activities, stair climbing, treadmill activity, "wheel barrowing" (for forelimb activity), and "dancing" (for rear limb activity). Other activities include jogging, sit-to-stand exercises, pulling or carrying weights, walking and trotting across cabaletas rails, playing ball, taping a bottle or syringe captors the bottom of an unaffected foot to encourage weight bearing, slinging the contra lateral good limb, and using balance balls or rolls. The exercise session should consist of the following procedure:

Warm-up period was approximately 10 min., this was combine callisthenic type stretching, exercise and progressive aerobic activity. However, cool down period were 5 to 10 min.

**Ethical Consideration:**

In collecting the data, the researcher Follow to ethical guidelines, principles, and standards for studies conducted with human beings. The study was include safeguards for protecting humans.

**The inclusion criteria are:**

1. The participant was agreeing to participate in the study.
2. The participants must be competitive young adults in their aged range was 18 to 35 years.
3. The participants were not rotating through other health facility at the time of study.

**The exclusion criteria are:**

1. The participants advised not to participate if under any physiological or psychological disorders.
2. Inability to obtain the questionnaire of the respondent.
3. Presence of chronic medical conditions such as asthma, heart disease or any other condition and
4. Participants not less than aged of 18 and more than 35 years with unmarred.
**Statistical technique:-**

The statistical computation of data of the present study is used by using SPSS package in the computer. The result computed also crosschecked by using following statistical variables. Mean, standard deviation, and ANCOVA. The level of significance was keep at 0.05 level of confidence to test the hypothesis.