

CHAPTER – III

METHODOLOGY

The researcher determines the response of health-related psychosocial and fitness variables to physical and social vulnerability children from the coastal area of physical and social vulnerability due to the physical and social vulnerability program intervention with and without hatha yoga practices. Subjects, identification and selection of variables, training protocol identified and selected for the adopted experimental design, standard measures and test selection, data reliability, instrument reliability, tester reliability, reliability of subjects, experimental training methods, administration of tests and statistical techniques.

3.1 IDENTIFICATION AND SELECTION OF SUBJECTS FOR RESEARCH

The prime focus of this research work was to evaluate the presence of physical and social vulnerability of coastal area children and to quantify the impact of adopted experiment in the research. Based on suitability and nature of the research, true random group design was adopted.

Research work consists of two parts:

Research-work Phase–I: Status Analysis-Physical and Social Vulnerability.

Research-work Phase –II: Experimental Training (PEPWHYP, PEPWOHYP)

Research-work Phase – I: Status Analysis-Physical and Social Vulnerability

One Thousand and Seventeen (1017) children were taken for analysis from the Chennai Coastal Area (CCA). The children age range was fixed from 10 to 14 years old boys were selected as true random design. They were analyzed through a Physical and Social Vulnerability (PSV) checklist made for this research purpose with due standardization process. From the investigation Six Hundred and Forty One (641) children were identified, they are living their live hood as Physical and Social Vulnerability (PSV).

Research-work Phase – II: (PEPWHYP, PEPWOHYP)

Six Hundred and Forty One (641) children were physically and socially vulnerable from the population 75 children were randomly selected as subjects for this experimental study. They were assigned into three groups. Two experiment group and one Non-Experimental Group (NEG), each group consists of 25 children at random. Group-I Physical Education Programme with Hatha Yoga Practices (PEPWHYP),

Group-II Physical Education Programme without Hatha Yoga Practices (PEPWOHYP) and Group-III Non-Experimental Group (NEG).

3.2 IDENTIFICATION AND SELECTION OF VARIABLES

The investigator done preliminaries, gone through various scientific articles, journals, books, internet resources and research articles before identification and selection of variables, also taking in to the consideration of achievability, standards, availability of mechanisms and the relevance of the variable of this study, the following variables were identified and selected.

3.3 VARIABLES IDENTIFIED AND SELECTED FOR TESTING

(A) Health-Related Physical Fitness Variables

- (a) Cardiovascular Endurance
- (b) Muscular Strength
- (c) Muscular Endurance
- (d) Flexibility

(B) Psychosocial Variables

- (a) Quality of life
- (b) Self-Esteem
- (c) Depression

3.4 TRAINING PROTOCOL IDENTIFIED AND SELECTED FOR EXPERIMENTAL TRAINING

1. Physical Education Programme with Hatha Yoga Practices (PEPWHYP).
2. Physical Education Programme without Hatha Yoga Practices (PEPWOHYP).

3.5 EXPERIMENTAL DESIGN ADOPTED IN THE RESEARCH

The experimental research was formulated as a true random group design, consisting of two phases namely

Research-work Phase –I: Status Analysis- Physical and Social Vulnerability.

Research-work Phase –II: Experimental Training (PEPWHYP, PEPWOHYP).

Research-work Phase –I: Status Analysis - Physical and Social Vulnerability

Physical, Social Vulnerability and Standardization of checklist consist of 30 statements. Assessed One Thousand and Seventeen (1017) children from Chennai Coastal Area, true random group design were used. Physical and Social Vulnerability (PSV) check list made for this purpose with due standardization process. The factors involved in the checklist were Health, Poverty, Unemployment, Family Income, Educational Status, Disability, Single Parent (divided family), Housing, Vehicles and Physical neglects (Food, Clothes, shelter), Educational neglect (Parent not giving

Education for Child), Emotional neglect (Humiliating, Intimating & Isolating), Medical neglect (Health care and Dental Care).

From the investigation it was found that out of One Thousand and Seventeen (1017) Coastal Area Children Six Hundred and Forty One (641) were Vulnerable to Physical and Social Vulnerability (PSV).

Phase –II: Experimental Training (PEPWHYP, PEPWOHYP)

From Six Hundred and Forty One (641) Physical and Social Vulnerable children seventy five coastal area children were selected based on Physical and Social Vulnerability scores from Chennai as subjects. Their age ranged from 10 to 14 years. The subjects (n=75) were randomly assigned to three equal groups of twenty five each, they were assigned as Group-I Physical Education Programme with Hatha Yoga Practices (PEPWHYP), Group-II Physical Education Programme without Hatha Yoga Practices (PEPWOHYP) and Group-III Non-Experimental Group (NEG). Pre-test was accompanied for all the 75 subjects on selected Health Related Physical Fitness (HRPF) variables namely Cardio-Vascular Endurance (CVE), Muscular Strength (MS), Muscular Endurance (ME), Flexibility (FX) and Psychosocial variables namely Quality of Life (QOL), Self-Esteem (SE), Depression (DP). The two experimental groups underwent scheduled experimental training for a period of twelve weeks, five days in a week. Non-

Experimental Group (NEG) was not exposed to training, other than their regular activities. After the 12 weeks experimental scheduled experimental training, all the three groups were measured on above mentioned variables. The experiment training programme duration 5 day in a week for 12 weeks scheduled at 4.00 pm to 5.15pm for both the experiment groups. Before the investigation permission were made from the children parent/guardian. During this investigation all the COVID-19 Standard Operation Procedures were followed.

3.6 CONSTRUCTION PROCEDURES AND STANDARDIZATION OF CHECKLIST

The core purpose of this study was to discover the Physical and Social Vulnerability of Coastal Area Children. To succeed the purpose and to measure the Physical and Social Vulnerability, the researcher investigated for the standardized checklist specific for the Vulnerable Coastal Area Children. It wasn't found such standardized checklist for above mentioned Vulnerability. In those circumstances, the researcher discussed with his guide, subject experts social worker, field expert, sports psychologist and language expert to develop checklist specifically for Vulnerable Coastal Area Children. The collected inputs were transformed into statements to measure the criterion Vulnerability. Totally 50 statements were prepared. Repetitive statements and confusing statements were removed. They were prepared carefully, meaningfully and

systematically. Thirty (30) numbers of statements were finalized, Physical vulnerability statements Fifteen (15); Social Vulnerability statements Fifteen (15), they were simply prepared as ‘Yes’/’No’ to tick easily to measure the criterion Vulnerability. In this construction procedure and standardization the Objectivity, Reliability and Validity of the checklist was analysed and verified statistically.

TABLE 3.1
CONSTRUCTED CHECKLIST AND DESCRIPTION
Physical and Social Vulnerability Checklist

S.No.	CHECKLIST	YES	NO
1.	Do you have a permanent residence?		
2.	Do you have a toilet facility at home?		
3.	Do you have the habit of washing hands before food?		
4.	Do you follow healthy food habits?		
5.	Do you have access to the playground?		
6.	Do you play/ exercise?		
7.	Do you have habit of doing any form of yogic practice?		
8.	Do you follow a proper sleeping habit?		
9.	Do you have access to hospitals/child helpline number?		
10.	Do you know Covid-19 precautionary measures?		
11.	Have you been timely vaccinated?		
12.	Do you have any chronic illness/diseases?		
13.	Have you meet with an accident in the past?		
14.	Do you have any physical disability or reformative in your body?		
15.	Is there any person from your family affected by Covid-19?		
16.	Are you living with your Parents?		

17.	Does your family has a permanent income source?		
18.	Does your family has any financial crisis?		
19.	Is there any alcoholic person in your family/friends?		
20.	Do you have good friends?		
21.	Do you have any recreational facility nearby your residence?		
22.	Are you happy with your present living condition?		
23.	Is your living area free from hazardous communicable diseases?		
24.	Is there any chance of anti-social activity near to your house?		
25.	Have you involved in any Anti-social activities?		
26.	Does your family has any threat from external persons or any other sources?		
27.	Have you face any physical torture from external forces?		
28.	Have you faced any domestic violence or torture from your family?		
29.	Do you respect elders and women?		
30.	Do you know the difference between good touch and bad touch?		

To determine score, Yes = 0, No = 1, reverse the scoring for the Eleven (11) statement in the checklist (12, 13, 14, 15, 18, 19, 24, 25, 26, 27, 28) as follows Yes = 0, No = 1. Then, add up scores across the 30 items. Total score should fall between 0 and 30. A score of greater than 15 indicates the Physical and Social Vulnerability of Coastal Area Children.

3.7 TRIAL OF EXPERIMENTAL STUDY

A trial study was conducted beforehand and finalizing the training schedule with 5 coastal area children with assistance of Physical Education Professionals and yoga experts to finalize that the intensity, aptness and time of the exercises comprised Physical Education Programme and Hatha Yoga Practices were within the abilities of the subjects. They were asked to perform the exercises continuously to their sub-maximal effort. The aim of trial was to know the subject capability and to know the struggle of conducting the training programme and to set a perfect understanding about the exercises, practices and duration, which is required for conducting the training programme. The subjects were comfortable during the trial. Before the trial permission were made from the children parent/guardian. During this trial all the COVID-19 Standard Operation Procedures were followed as instructed by the Central Govt. of India and the Government of Tamil Nadu.

TABLE 3.2
STANDARD MEASURES AND SELECTION OF TEST

S. No	Variables	Test	Unit of Measurement
Health Related Fitness Variables			
1.	Cardiovascular Endurance	12min Run/Walk Test	Meters
2.	Muscular Strength	Pull-Ups	Numbers
3.	Muscular Endurance	Sit-Ups	Numbers
4.	Flexibility	Sit and Reach	Centimetres
Psychosocial Variables			
5.	Quality of Life	Q.O.L Scale of Jamila K. Warriar and Samsananda Raj	Scores
6.	Self-Esteem	Rosenberg Self-Esteem Scale	Scores
7.	Depression	Beck Depression Inventory(Beck)	Scores

3.8 TRUSTWORTHINESS OF DATA

The investigator is proficient with the technique of conducting the test. All the test and measurement were taken precisely and recorded by the investigator with the support of Physical Education and yoga experts.

3.9 TRUSTWORTHINESS OF INSTRUMENTS

The investigator used instruments such as sit & reach box, tape, stop watch and cones and standard qualities. The instruments were authorized; they were calibrated in standard units. To define the trustworthiness of the instruments on each of the variables were noted for two times under similar environments using the similar instruments. The score were equated and hence the instruments were considered trustworthy to use in this research.

3.10 TESTERS TRUSTWORTHINESS

Tester reliability was recognized by test-retest processes. For this determination four subjects were selected at random on the designated variables, which were recorded twice under identical environments on diverse circumstances by the investigator.

3.11 SUBJECTS SUITABILITY

The investigator administered the subjects in the two experiment and Non-Experimental Group (NEG) during the testing of both pre & post-test. The investigator has described the purpose of Physical Education Programme and Hatha Yoga Practices

(PEPHYP) and described the techniques to test the preferred standards variables to the subjects. Their system of scoring was precisely clarified as well as demonstrated by the investigator to enrich the subjects' suitability. A session was organized to train the subjects to pursue their cooperation. They were cooperative during the training and assessment periods.

3.12 EXPERIMENTAL TRAINING METHODS

The two investigational groups underwent experimental training for a period of twelve weeks, five days in a week. Non-Experiment Group (NEG) was not exposed to any experimental training other than their regular activities. The adopted training programme duration 5 days in a week for 12 weeks scheduled at 4.00 pm to 5.15 pm.

TABLE 3.3

TRAINING PROGRAM FOR EXPERIMENTAL GROUPS

S.NO.	NAME OF THE GROUPS	DURATION	FREQUENCY
1	Group – I Physical Education Program with Hatha Yoga Practices (PEPWHYP)	12 weeks	5 days/week
2	Group – II Physical Education Program without Hatha Yoga Practices (PEPWOHYP)	12 weeks	5 days/week
3	Group – III Non-Experimental Group (NEG)	Not exposed to Training	

3.13 EXPERIMENTAL TRAINING SCHEDULE

The exercise training programme consisted of twelve weeks of experimental training programme with and without hatha yoga practices were scheduled for five days in a week. This tested the methods of PEPWHYP, PEPWHOYP and NEG. During the entire training program, participants were closely supervised and monitored by certified fitness trainers, coaches, and yoga certified trainers, ensuring proper execution of exercise techniques. A standardized warm-up preceded training and testing sessions and finished by a cool-down period. Testing was the same for the pre and post testing measurements and was performed before and after the 12-weeks training period. All tests were administered at a similar time of day.

TABLE 3.4

INDEX OF EQUIPMENT USED FOR THE EXPERIMENTAL TRAINING	
<ul style="list-style-type: none"> ➤ Wooden Dumbbells ➤ Indian Clubs ➤ Hoops ➤ Gymnastic Mat ➤ Yoga Mat ➤ Pole ➤ Mini Resistant Band ➤ Bosu Ball ➤ Mini Swiss Ball ➤ Tennis Ball ➤ Football ➤ Beach Volleyball ➤ Cones 	<p>Technical Equipments</p> <ul style="list-style-type: none"> ➤ First Aid Box ➤ Laptop ➤ Video Tutorials ➤ Speaker ➤ Projector ➤ Projector Board <p>Hygienic Protocols</p> <ul style="list-style-type: none"> ➤ Soap ➤ Sanitizer ➤ Mask

TABLE 3.5

GENERAL STRUCTURE OF TRAINING PROGRAMMES

Groups	Training	Duration	Intensity		
			Phase - I	Phase - II	Phase – III
IVG – I	IPEPWHYP	75min	65%	75%	85%
IVG- II	IPEPWOHYP	75min	65%	75%	85%
NIG	Not Exposed to Training				

TABLE 3.6

**EXERCISES USED FOR THE EXPERIMENTAL PHYSICAL EDUCATION
PROGRAMME PHASE – I
(1st to 4th Weeks)**

10min Warm activities (Jogging, mobilization)			
Workout – 1 (25min)	Workout – 2 (25min)	Workout – 3 (25min)	Workout – 4 (25min)
Free Hand Exercise Upper Extremities 4 Counts 8 Counts Lower Extremities 4 Counts 8 Counts Dumbbells Exercise Upper Extremities 4 Counts 8 Counts Lower Extremities 4 Counts 8 Counts	Dumbbells Exercise Upper Extremities 4 Counts 8 Counts Lower Extremities 4 Counts 8 Counts Resistance Band Glut bridge with Abduction Side-lying Abduction Squat Clock tap Glute kickback	Gymnastics Forward Roll Cartwheel Backward Roll Handstand Back Bend/Back Bend Kick Over Bosu Ball SingleLeg Hold Bird dog Bridge Mountain Climbers	Free Hand Exercise Upper Extremities 4 Counts 8 Counts Lower Extremities 4 Counts 8 Counts Resistance Band Glut bridge with Abduction Side-lying abduction Squat Clock tap
RECREATION ACTIVITY (15min)			
Ostrich tag Foot Cricket	Hopping Relay Team – Kangaroo Jump	Human Obstacle Relay Hand Hockey	Over Head Passing Relay Hand Cricket
COOL DOWN EXERCISE (10min)			
Note: After the training session researcher taught (15min) on personal hygiene, the importance of Physical Education, Social Problems.			

TABLE 3.7
EXERCISES USED FOR THE EXPERIMENTAL PHYSICAL EDUCATION
PROGRAMME PHASE – II
(5th to 8th Weeks)

10min Warm activities (Jogging, mobilization, Jump and Jack, High kneel, Leg raise walking)			
Workout – 5 (25min)	Workout – 6 (25min)	Workout – 7 (25min)	Workout – 8 (25min)
Free Hand Exercise Upper Extremities 8 Counts 16 Counts Lower Extremities 8 Counts 16 Counts Dumbbells Exercise Upper Extremities 8 Counts 16 Counts Lower Extremities 8 Counts 16 Counts	Pole Exercise Upper Extremities 8 Counts 16 Counts Lower Extremities 8 Counts 16 Counts Resistance Band Clock tap Glute kickback Lat pull--down Plank jacks Overhead press	Gymnastics Forward Roll Cartwheel Backward Roll Handstand Half turn on one foot Full turn on one foot Bosu Ball Mountain Climbers Burpees Lunges V Squat Side to Side Squat	Swiss ball Exercise Hamstring curl push up Crunches Squat Inner thigh squeeze Resistance Band Clock tap Glute kickback Lat pull--down Plank jacks
RECREATION ACTIVITY (15min)			
Circle Snatch Musical Number	Hand Cricket (Volleyball) Couple Tag	Dodge Ball Fish Net	Foot Cricket Namaskar Tag
COOL DOWN EXERCISE (10min)			
Note: After the completion of the session the researcher taught on fitness and sports awareness and sports personality to motivate the children.			

TABLE 3.8
EXERCISES USED FOR THE PHYSICAL EDUCATION PROGRAMME
PHASE – III
 (9th to 12th Weeks)

10min Warm activities (Jogging, Jump and Jack, High kneel, Back Leg Kick, Skater Jack, Tuck Jump)			
Workout – 9 (25min)	Workout – 10 (25min)	Workout – 11 (25min)	Workout – 12 (25min)
Aerobic Dance A Step V Step Grape Vine Step Z- Step V- Jump Step Turn-step Charleston	Gymnastics Half turn on one foot Full turn on one foot Full turn with free leg in scale above horizontal Straight Jump Tuck Jump Straddle Jump Split Jump Pike Jump Wolf Jump	Swiss ball Exercise Push Up Crunches Squat Inner thigh squeeze Back extension Triceps push-ups Abductor lift	Bosu Ball Single Leg Hold Bird dog Bridge Mountain Climbers Burpees Lunges V Squat Side to Side Squat Push-up Triceps Dip Seated Oblique twist
RECREATION ACTIVITY (15min)			
Foot Cricket Hopping Relay	Kangaroo Relay Hand Cricket	Hopping Tag Hand Hockey	Over Head Passing Relay
COOL DOWN EXERCISE (10min)			
<p>Note: After the completion of the session the researcher arranged special videos such as sports games and skills activities, Motivational Videos, Sports Governing Bodies awareness were given to motivate the children.</p>			

TABLE 3.9
HATHA YOGA PRACTICES – I (HYP -1)
1st to 4th Weeks

Sl. No	Yogic Practices	Repetition or round	Breathe	Duration
1	Loosening Exercises	One round	-	2 minutes
2	Suryanamaskar	3 – 6 rounds	-	10 minutes
3	Tadasana	One round	-	2 minutes
4	UrdhvaHastasana	One round	-	2 minutes
5	Utthanasana	One round	-	2 minutes
6	PrasaritaPadottanasana	One round	-	2 minutes
7	AdhomukhaSvanasana	One round	-	2 minutes
8	UthithaTrikonasana	One round	-	2 minutes
9	Ustrasana	One round	-	2 minutes
10	Virasana	3 – 5 times	-	10 minutes
11	AdhomukhaVirasana	2 times	8 breath	2 minutes
12	Janushirsasana	2 times	8 breath	2 minutes
13	Paschimotasana	2 times	8 breath	2 minutes
14	Upavistakonasana	2 times	8 breath	2 minutes
15	Shalabasana	2 times	8 breath	2 minutes
	PRANAYAMA			
16	Ujjai	2 times	8 breath	2 minutes
17	Viloma	2 times	8 breath	2 minutes
	Meditation	1 time	-	5 – 10 minutes
	Relaxation	1 time	-	10 - 20 minutes

TABLE 3.10
HATHA YOGA PRACTICES (HYP -2)
5th to 8th Weeks

Sl. No	Yogic Practices	Repetition or round	Breathe	Duration
1	Loosening Exercises	One round	-	2 minutes
2	Suryanamaskar	3 – 6 rounds	-	10 minutes
3	Tadasana	One round	-	2 minutes
4	UrdhvaHastasana	One round	-	2 minutes
5	Utthanasana	One round	-	2 minutes
6	PrasaritaPadottanasana	One round	-	2 minutes
7	AdhomukhaSvanasana	One round	-	2 minutes
8	UthithaTrikonasana	One round	-	2 minutes
9	Ustrasana	One round	-	2 minutes
10	Virasana	3 – 5 times	-	10 minutes
11	AdhomukhaVirasana	2 times	8 breath	2 minutes
12	Janushirsasana	2 times	8 breath	2 minutes
13	Paschimotasana	2 times	8 breath	2 minutes
14	Upavistakonasana	2 times	8 breath	2 minutes
15	Shalabasana	2 times	8 breath	2 minutes
16	Baddhakonasana	2 times	8 breath	2 minutes
17	SuptaBaddhakonasana	2 times	8 breath	2 minutes
20	SuptaVirasana	2 times	8 breath	2 minutes
21	Savasana	2 times	8 breath	2 minutes
	PRANAYAMA			
22	Ujjai	2 times	8 breath	2 minutes
23	Viloma	2 times	8 breath	2 minutes
	Meditation	1 time	-	5 – 10 minutes
	Relaxation	1 time	-	10 - 20 minutes

TABLE 3.11
HATHA YOGA PRACTICES (HYP -3)
9th to 12th Weeks

Sl. No	Yogic Practices	Repetition or round	Breathe	Duration
1	Loosening Exercises	One round	-	2 minutes
2	Suryanamaskar	3 – 6 rounds	-	10 minutes
3	Tadasana	One round	-	2 minutes
4	UrdhvaHastasana	One round	-	2 minutes
5	Utthanasana	One round	-	2 minutes
6	PrasaritaPadottanasana	One round	-	2 minutes
7	AdhomukhaSvanasana	One round	-	2 minutes
8	UthithaTrikonasana	One round	-	2 minutes
9	Ustrasana	One round	-	2 minutes
10	Virasana	3 – 5 times	-	10 minutes
11	AdhomukhaVirasana	2 times	8 breath	2 minutes
12	Janushirsasana	2 times	8 breath	2 minutes
13	Paschimotasana	2 times	8 breath	2 minutes
14	Upavistakonasana	2 times	8 breath	2 minutes
15	Shalabasana	2 times	8 breath	2 minutes
16	Baddhakonasana	2 times	8 breath	2 minutes
17	SuptaBaddhakonasana	2 times	8 breath	2 minutes
18	SuptaVirasana	2 times	8 breath	2 minutes
19	ViparitaKrani	2 times	8 breath	2 minutes
20	Savasana	2 times	8 breath	2 minutes
	PRANAYAMA			
21	Ujjai	2 times	8 breath	2 minutes
22	Viloma	2 times	8 breath	2 minutes
	Meditation	1 times	-	5 – 10 minutes
	Relaxation	1 time	-	10 - 20 minutes

TABLE 3.12
EXPERIMENTAL GROUP – 1
PHYSICAL EDUCATION PROGRAMME WITH HATHA YOGA PRACTICES
SCHEDULE (PEPWHY)

Weeks	Days	Schedule	Set	Sec/Rep
1	Monday	Workout – 1	2	5Rep
	Tuesday	HYP -1	-	--
	Wednesday	Workout – 2	2	5Rep
	Thursday	HYP -1	-	--
	Fri	Workout – 3	2	5Rep
2	Monday	Workout – 1	2	5Rep
	Tuesday	HYP -1	-	--
	Wednesday	Workout – 3	2	5Rep
	Thursday	HYP -1	-	--
	Fri	Workout – 4	2	5Rep
3	Monday	Workout – 3	2	5Rep
	Tuesday	HYP -1	-	--
	Wednesday	Workout – 4	2	5Rep
	Thursday	HYP -1	-	--
	Fri	Workout – 2	2	5Rep
4	Monday	Workout – 3	2	5Rep
	Tuesday	HYP -1	-	--
	Wednesday	Workout – 4	2	5Rep
	Thursday	HYP -1	-	--
	Fri	Workout – 3	2	5Rep
5	Monday	Workout – 5	3	6Rep
	Tuesday	HYP -2	-	--
	Wednesday	Workout – 6	3	6Rep
	Thursday	HYP -2	-	--
	Fri	Workout – 5	3	6Rep
6	Monday	Workout – 6	3	6Rep
	Tuesday	HYP -2	-	--
	Wednesday	Workout – 7	3	6Rep
	Thursday	HYP -2	-	--
	Fri	Workout – 5	3	6Rep
7	Monday	Workout – 7	3	6Rep
	Tuesday	HYP -2	-	--
	Wednesday	Workout – 8	3	6Rep
	Thursday	HYP -2	-	--
	Fri	Workout – 8	3	6Rep
8	Monday	Workout – 7	3	6Rep
	Tuesday	HYP -2	-	--
	Wednesday	Workout – 8	3	6Rep
	Thursday	HYP -2	-	--
	Fri	Workout – 7	3	6Rep

Weeks	Days	Schedule	Set	Sec/Rep
9	Monday	Workout – 9	3	8Rep
	Tuesday	HYP -3	-	--
	Wednesday	Workout – 10	3	8Rep
	Thursday	HYP -3	-	--
	Fri	Workout – 11	3	8Rep
10	Monday	Workout – 10	3	8Rep
	Tuesday	HYP -3	-	--
	Wednesday	Workout – 11	3	8Rep
	Thursday	HYP -3	-	--
	Fri	Workout – 12	3	8Rep
11	Monday	Workout – 9	3	8Rep
	Tuesday	HYP -3	-	--
	Wednesday	Workout – 7	3	8Rep
	Thursday	HYP -3	-	--
	Fri	Workout – 12	3	8Rep
12	Monday	Workout – 11	3	8Rep
	Tuesday	HYP -3	-	--
	Wednesday	Workout – 12	3	8Rep
	Thursday	HYP -3	-	--
	Fri	Workout – 11	3	8Rep

TABLE 3.13
EXPERIMENTALGROUP – 2
PHYSICAL EDUCATION PROGRAMME SCHEDULE (PEPWOHYP)

Weeks	Days	Schedule	Set	Sec/Rep
1	Monday	Workout – 1	2	5Rep
	Tuesday	Workout – 2	2	5Rep
	Wednesday	Workout – 1	2	5Rep
	Thursday	Workout – 3	2	5Rep
	Fri	Workout – 2	2	5Rep
2	Monday	Workout – 1	2	5Rep
	Tuesday	Workout – 3	2	5Rep
	Wednesday	Workout – 4	2	5Rep
	Thursday	Workout – 2	2	5Rep
	Fri	Workout – 1	2	5Rep
3	Monday	Workout – 4	2	5Rep
	Tuesday	Workout – 2	2	5Rep
	Wednesday	Workout – 3	2	5Rep
	Thursday	Workout – 1	2	5Rep
	Fri	Workout – 4	2	5Rep

Weeks	Days	Schedule	Set	Sec/Rep
4	Monday	Workout – 3	2	5Rep
	Tuesday	Workout – 1	2	5Rep
	Wednesday	Workout – 4	2	5Rep
	Thursday	Workout – 2	2	5Rep
	Fri	Workout – 3	2	5Rep
5	Monday	Workout – 5	3	6Rep
	Tuesday	Workout – 6	3	6Rep
	Wednesday	Workout – 5	3	6Rep
	Thursday	Workout – 7	3	6Rep
	Fri	Workout – 6	3	6Rep
6	Monday	Workout – 5	3	6Rep
	Tuesday	Workout – 7	3	6Rep
	Wednesday	Workout – 8	3	6Rep
	Thursday	Workout – 6	3	6Rep
	Fri	Workout – 5	3	6Rep
7	Monday	Workout – 8	3	6Rep
	Tuesday	Workout – 6	3	6Rep
	Wednesday	Workout – 7	3	6Rep
	Thursday	Workout – 5	3	6Rep
	Fri	Workout – 8	3	6Rep
8	Monday	Workout – 7	3	6Rep
	Tuesday	Workout – 5	3	6Rep
	Wednesday	Workout – 8	3	6Rep
	Thursday	Workout – 6	3	6Rep
	Fri	Workout – 7	3	6Rep
9	Monday	Workout – 9	3	8Rep
	Tuesday	Workout – 10	3	8Rep
	Wednesday	Workout – 9	3	8Rep
	Thursday	Workout – 11	3	8Rep
	Fri	Workout – 10	3	8Rep
10	Monday	Workout – 9	3	8Rep
	Tuesday	Workout – 11	3	8Rep
	Wednesday	Workout – 12	3	8Rep
	Thursday	Workout – 10	3	8Rep
	Fri	Workout – 9	3	8Rep
11	Monday	Workout – 12	3	8Rep
	Tuesday	Workout – 10	3	8Rep
	Wednesday	Workout – 7	3	8Rep
	Thursday	Workout – 9	3	8Rep
	Fri	Workout – 12	3	8Rep
12	Monday	Workout – 11	3	8Rep
	Tuesday	Workout – 9	3	8Rep
	Wednesday	Workout – 12	3	8Rep
	Thursday	Workout – 10	3	8Rep
	Fri	Workout – 11	3	8Rep

3.14 PHYSICAL - TEST ADMINISTRATION

3.14.1 “Cardiovascular Endurance (12 Minute Running/Walking Tests)

Purpose: To measure cardiovascular endurance or to assess aerobic capacity.

Facilities and Equipments: Flags are planted around the track at 40 yard intervals, an indoor or outdoor track, cones, a stopwatch, a Whistle, a score sheet and helpers.

Procedure:

The partner is instructed to count the number of laps that are run within the allotted time. When 11 minutes have elapsed, the instructor calls out the time let to run. At the end of 12 minutes, the instructor blows a blast on his whistle and the runner notes the flag he/she has just passed.

Scoring:

The observing partner gives the runner the number of completed laps he/she has run. The runner then reports the score in terms of number of laps plus the number of flags passed on the last lap” (Yobu, 2010).

3.14.2 “Muscular Strength (Pull-Ups)

Purpose:

To measure arm and shoulder strength.

Facilities and Equipments:

A metal or wooden bar approximately 1 and half inches in diameter is placed at a convenient height. However, for the lower age levels a doorway gym bar can be used. At times it may be necessary to improvise by using such equipment as a basketball goal support or a ladder. A score sheet and few assistants are also needed.

Procedure:

The bar is adjusted to such height that the student can hang free of the floor. The student should grasp the bar with his palms facing away from his body (overhead grasp). The student should then raise his body until his chin is over the bar and then lower it again to the starting position with his arms fully extended.

Instruction:

Do not lift your knees or assist your pull-up by kicking. You must return to the hang position with the arms fully straight. You will not be permitted to swing or snap your way up

Scoring:

One point is scored each time the student completes a pull-up. Part scores do not count, and only 1 trail is permitted unless it is obvious that the student did not have a fair chance on his first trail.

Testing Personnel:

One trained tester and few assistants can administer this item; count the score and record results” (Yobu, 2010).

3.14.3 “Muscular Endurance (Sit-Ups)**Purpose:**

To measure muscular endurance

Facilities and Equipments:

Mats may be used if they are available otherwise the floor is satisfactory, one score sheet, one stopwatch and few helpers.

Procedure:

The student lies flat on the back with knees bent and feet on the floor with the heels no more than 1 foot from the buttocks. The knee angle should be no less than 90 degrees. The fingers are interlocked and placed behind the neck with the elbows touching the floor. The feet are held securely by a partner. The student then curls up to a sitting

position and touches with the elbows the knees. This exercise is repeated as many times as possible in the time requirement.

Instruction:

Fingers must remain interlocked and in contact with the back of your neck at all times. You curl up from the starting position, but you may not push off the floor with an elbow. When return to the starting position, your elbows must be flat on the floor or mat.

Scoring:

One point is scored for each correct sit-up. The score is the maximum number of sit-ups completed in 60 seconds” (Yobu, 2010).

3.14.4 “Flexibility (Sit & Reach)

Purpose:

To evaluate flexibility of the lower back and hamstring muscles.

Facilities and Equipment:

Sit and Reach Box, a specially constructed box with a measuring scale with a 23 cm mark in line with the surface for the examinee’s feet. One score sheet and some assistants.

Procedure:

Students should warm up by stretching the low back and hamstrings by performing slow, sustained, steady (no bobbing) stretches.

Have students remove shoes and sit at the test apparatus with knees fully extended; heels should be about a shoulder-width apart, and feet should be flat against the box. Arms are extended forward, palms down, with one hand on top of the other. Students lean forward, extending the fingertips along the ruler as far forward as possible. Four trials are taken; the fourth trial should be held for at least one second.

The trial is invalid and should be re-administered if the knees fail to remain fully extended, or if the hands reach unevenly. The test administrator may place one hand lightly on the student's knees to encourage that knees stay extended.

Scoring:

The score, measured to the nearest centimeter, is the most distant point reached on the fourth trial by both hands and held for one second" (Yobu, 2010).

3.15 PSYCHOSOCIAL – TEST ADMINISTRATION

3.15.1 QUALITY OF LIFE SCALE

Questionnaire: (Jamila Warriar and Sananda Raj, 1999)

Purpose: To assess the Quality of Life

Instruction: "Some statements relating to certain aspects of your life are given below. Read each statement carefully and indicate how much you agree with each statement. Your response can be strongly agree, agree, undecided, disagree or strongly disagree. Indicate your choice by placing a ✓ mark on any of the five alternatives as A, B, C, D or E so as to indicate the extent of your agreement with the statement A- stands for strongly

agree, B- agree, C- undecided, D- disagree and E- Strongly disagree. The response undecided should be selected when you can't say clearly either you agree or disagree with the situation. Please do not omit item. Your responses will be used strictly to research purpose and will be kept confidential. This test has 3 sub tests measuring Physical aspects (Section-A), Psychological aspects (Section- B), and the Social aspects (Section C) of Quality of life. It is a five point scale, consisting of 30 items” (**Jamila Warriar and Sananda Raj, 1999**).

3.15.2 SELF-ESTEEM

Questionnaire: Rosenberg 1965 Self-Esteem Scale

Purpose: To measure the Self-Esteem.

Instruction: “Rosenberg Self-Esteem scale have 10 statements. It is a 4 point scale, ‘Strongly Disagree’, ‘Disagree’, ‘Agree’ and ‘Strongly Agree’, scoring as follows 0,1,2,3,4 respectively. After counting the total score lower score indicates low Self-Esteem, higher score indicates higher Self-Esteem” (**Rosenberg, 1965**).

3.15.3 DEPRESSION

Questionnaire: Beck Depression

Purpose: To measure the Depression.

Instruction: “Interpreting the Beck Depression Inventory Now that you have completed the questionnaire, add up the score for each of the twenty-one questions by counting the number to the right of each question you marked. The highest possible total for the whole test would be sixty-three. This would mean you circled number three on all twenty-one

questions. Since the lowest possible score for each question is zero, the lowest possible score for the test would be zero. This would mean you circles zero on each question. You can evaluate your depression according to the Table below.

Total Score _____ Levels of Depression

1-10 _____ These ups and downs are considered normal

11-16 _____ Mild mood disturbance

17-20 _____ Borderline clinical depression

21-30 _____ Moderate depression

31-40 _____ Severe depression

over 40 _____ Extreme depression” (Beck, et al. 1961).

3.16 STATISTICAL PROCEDURES

The collected data from the Physical Education Programme with Hatha Yoga Practices, Physical Education without Hatha Yoga Practices and Non-Experimental Group (NEG) prior to and immediately after the training program on selected criterion variables were statistically analyzed with suitable statistical procedures. The Normality of the data for the all selected variables was analyzed.

Descriptive and Analysis of covariance (ANCOVA) was used to find out the significant difference between experimental groups and Non-Experimental Group (NEG). When the F-ratio indicated that there are significant differences between the means, scheffe's post-hoc test was applied to identify which means are significantly different from each other. For this study,95% level of confidence was fixed to test the research hypotheses.

FIGURE – 1
FLOW CHART SHOWING THE METHODOLOGY ADOPTED IN THE STUDY

