CHAPTER III

METHODOLOGY

There is so much emphasis on Health and Fitness in the present times therefore there is a tendency to select a mode to keep oneself healthy and fit with more deliberation and thought. This is true of all ages. With so much variety and opportunity for choice and with growing complexity in the ways of living and with lesser free time available the choice of keeping oneself fit and healthy is indeed a major provocation for study.

3.1 SELECTION OF SUBJECTS

The area covered by the study came under the jurisdiction of the Chennai city. The subjects selected by random sampling method consisted of 90 traffic policemen (each group of 30 samples) between the age group of 40-50years. The 12 week training program was conducted on 30 subjects at a time at Rajarathinam Stadium, Egmore, Chennai.

Experimental Group I was assigned with yogic practices (group A) prescribed by B.K.S Iyengar

Experimental GroupII was assigned with yogic practices (group B) prescribed by Swami Sathyananda Saraswathi

Group C was control group.

3.2 SELECTION OF VARIABLES

The researcher reviewed the available scientific literature pertaining varied yogic practices on selected Physiological, Bio-chemical and Psychological variables. In the present study the following variables were selected.

3.2.1 INDEPENDENT VARIABLES

Varied yogic practices can be performed easily with a little practice. They have been coming down over thousands of years and have withstood the test of time.

YOGIC PRACTICES (Group A)

Chanting of "OM"

Prayer

Loosening asanas

Padmasana

Ardhapadmavajrabharadwajasana

Tadasana

Ardhakatichakrasana

Parivritatrikonasana

Uttanapadasana

Halasana

Sarvangasana

Baddhakonasana

Uppavishtakonasana

Bhujangasana

Ardhasalabhasana

Salabhasana

Vakrasana

Ujjayi pranayama

Viloma 2 pranayama

Shavasana

Concluding Prayer

YOGIC PRACTICES (Group B)

Pranaamasana

Hastauttanasana

Padahastasana

Ashwasanchalasana

Parvatasana

Ashtangasana

Bhujangasana

Parvatasana

Ashwasanchalasana

Padahastasana

Hastauttanaasana

Pranaamasana.

Anuloma Viloma pranayama

Yoga nidra

3.2.2 DEPENDENT VARIABLES

The variables like Pulse Rate, Vital Capacity, Blood pressure, Total Cholesterol, Blood Sugar ,Liver function, Job Involvement, Stress and Organizational Climate affect the Activities of Daily Living (ADL) of the policemen. Thus the above mentioned variables are taken into account. All these variables were considered for the study.

a) Physiological Variables

Pulse Rate

Vital Capacity

Blood pressure

b) Bio-chemical Variables

Total Cholesterol

Blood Sugar

Liver function

c) Psychological Variables

Job Involvement

Stress

Organizational Climate

3.3 EXPERIMENTAL DESIGN

Experimental Group I was assigned varied yogic practices (Group A).

Experimental Group II was assigned varied yogic practices (Group B)

Group C was control group.

The study was formulated as a true random group experimental design consisting of a pre-test and post test. After a period of 12 weeks post-test scores were obtained from all the 3 groups. The differences between initial and final scores on Physiological, Bio-chemical and Psychological Variables showed a remarkable difference. The mean differences were tested for significance using analysis of co-variance (ANCOVA). To find out the paired mean differences, Sheffe's post hoc test was used.

3.4 PILOT STUDY

A pilot study was conducted to assess the initial capacity of the entire subject in order to fix the intensity and volume of the Asanaes, based on the response of the subjects in the pilot study the training schedule was constructed however the individual differences were considered while constructing the training programme. The basic principles of training (progression over load and specificity) were followed while giving the training programme.

Pilot study considers a host of practical issues equipment needs, preparation of materials and so on.

It is a miniature version of the study in which the chosen procedures and materials work the way, they will to satisfy the needs. Thus, it is small, sealed-

down version of a study used to test the validity of experimental procedures and measures.

The pilot study was conducted with five persons and the various readings were noted. The calculated intra class correlation of the pilot study shows that there was a significant difference on Physiological Variable's -.Pulse Rate, Vital Capacity, Blood pressure, Bio-chemical Variable's - Total Cholesterol, Blood pressure, Liver function. Psychological Variable's-.Job Involvement, Stress, Organizational Climate

3.5 CRITERION MEASURES

By studying the literature and in consultation with professional experts the following variables were selected as the criterion measures in this study

TABLE III

Criterion Measures

Variables	**Test/Instrument**	**Measurement/unit**
Physiological Variables		
Pulse rate	Digital pulse measuring apparatus	pulse/minute
Vital capacity		
Blood pressure	Digital Blood pressure measuring apparatus	mmHg
Bio-chemical Variables.		
Total Cholesterol	Lab test	
Blood Sugar	Lab test	
.Liver function	Lab test	
Psychological Variables.		
Job Involvement,	AshokPratapSinghquestionnaire	Numeric values
Stress	Latha Sathis stress questionnaire	Numeric values
Organizational Climate	Shailendra Singhs Questionnaire	Numeric values

3.6 RELIABILITY OF DATA

Reliability of data was ensured by using standard instruments and questionnaire and by establishing tester competency for the reliability of the test.

3.7 RELIABILITY OF INSTRUMENTS

The following instruments tests and questionnaires were used for recording Physiological, Bio-chemical and Psychological Variables and results were found reliable.

1. Digital pulse measuring apparatus.

2. Spirometer.

3. Digital Blood pressure measuring apparatus

4. Lab test.

5. Lab test.

6. Lab test

7 Ashok Prathap Singh's questionnaire for job involvement

8 Dr Latha Satish questionnaire for stress

9. Shailendra singhs Questionnaire for organizational climate

3.8 TESTER'S RELIABILITY

Reliability was established by the test, re-test process. Policemen from all the 3 groups were tested and re-tested on selected variables both at the time of pre-test and post-test. It is a univariate not a bivariate situation .It makes sense then to use a univariate statistics like the intra class correlation coefficient (Baumgartner and Jackson 1975) The repeated measurements of individuals on the same test were done to determine the reliability.

The intra class correlation coefficient I obtained for test-retest data are presented in TABLE IV

Sl.no	Variables	Coefficient Of Correlation
1.	Pulse rate	0.93*
2.	Vital capacity	0.84*
3.	Blood pressure	0.91*

As for Bio-chemical Variables Total Cholesterol, Blood pressure, Liver function. the lab tests have determined reliability and the same were adopted for the study conducted by the scholar herself and considered as reliable.

As for Psychological Variables Job Involvement, Stress, Organizational Climate the questionnaires have determined reliability and the same were adopted for the study conducted by the scholar herself and considered as reliable.

3.9 SUBJECTS' RELIABILITY

The tests and re-test also conducted the subject reliabilities the same subjects were used under similar conditions by same tester. The coefficient of reliability were significant at 0.05 level, for the above test under investigation

3.10 ORIENTATION TO THE SUBJECTS

The subjects were allowed to familiarize with the techniques and tests. They were informed of the training schedule. The control group had no specific training and was advised not to involve themselves in any sort of exercise related to yoga practices and was in active rest. Further, they were informed of the seriousness of the project which needed good co-operation on the part of the subjects.

3.11 TRAINING SCHEDULE

TRAINING SCHEDULE FOR GROUP I-Yogic practices (GroupA) practices for 1st to 4th week Monday to Saturday .Classes begin and end with Chanting of "OM" and prayer. Duration of the class was 60 minutes

Table V

No	Name of Asanas Pranayama	Breath	Duration	Rest Time	Total Repetition	Total Duration
1.	Loosening asanas	4-8	3minutes	1minute	1	4minutes
2	Padmasana	4-8	2minutes	1minute	1	3minutes
3	Ardhapadmavajra Bharadwajasana	4-8	2minutes	1minute	1	3minutes
4	Tadasana	4-8	2minutes	1minute	1	3 minutes
5	Ardhakatichakrasana	4-8	2minutes	1minute	1	3Minutes
6	ParivritaTrikonasana	4-8	2minutes	1minute	1	3 minutes
7	Uttanapadasana	4-8	2minutes	1minute	1	3 minutes
8	Halasana	4-8	2minutes	1minute	1	3 minutes
9	Sarvangasana	4-8	2minutes	1minute	1	3 minutes
10	Baddhakonasana	4-8	2minutes	1minute	1	3 minutes
11	Uppavishtakonasana	4-8	2minutes	1minute	1	3 minutes
12	Bhjangasana	4-8	2minutes	1minute	1	3 minutes
13	Ardhasalabhasana	4-8	2minutes	1minute	1	3 minutes
14	Salabhasana	4-8	2minutes	1minute	1	3 minutes
15	Vakraasana	4-8	2minutes	1minute	1	3 minutes
16	Ujjayi pranayama	4-8	2minutes	1minute	1	3 minutes
17	Viloma 2 pranayama	4-8	2minutes	1minute	1	3 minutes
18	Shavasana		8minutes			8minutes

TRAINING SCHEDULE FOR GROUP I-Yogic practices (GroupA) practices for 5th to 8th week Monday to Saturday.Classes begin and end with Chanting of"OM" and prayer.Duration of the class was 75 minutes

Table VI

No	Name of Asanas Pranayama	Breath	Duration	Rest Time	Total Repetition	Total Duration
1.	Loosening asanas	8-12	3minutes	1minute	1	4minutes
2	Padmasana	8-12	3minutes	1minute	1	4minutes
3	Ardhapadmavajra Bharadwajasana	8-12	3minutes	1minute	1	4minutes
4	Tadasana	8-12	3minutes	1minute	1	4 minutes
5	Ardhakatichakrasana	8-12	3minutes	1minute	1	4minutes
6	ParivritaTrikonasana	8-12	3minutes	1minute	1	4 minutes
7	Uttanapadasana	8-12	3minutes	1minute	1	4 minutes
12	Halasana	8-12	3minutes	1minute	1	4 minutes
9	Sarvangasana	8-12	3minutes	1minute	1	4 minutes
10	Baddhakonasana	8-12	3minutes	1minute	1	4 minutes
11	Uppavishtakonasana	8-12	3minutes	1minute	1	4 minutes
12	Bhjangasana	8-12	3minutes	1minute	1	4 minutes
13	Ardhasalabhasana	8-12	3minutes	1minute	1	4 minutes
14	Salabhasana	8-12	3minutes	1minute	1	4 minutes
15	Vakraasana	8-12	3minutes	1minute	1	4 minutes
16	Ujjayi pranayama	8-12	3minutes	1minute	1	4 minutes
17	Viloma 2 pranayama	8-12	3minutes	1minute	1	4 minutes
18	Shavasana		7minutes			7minutes

TRAINING SCHEDULE FOR GROUP I-Yogic practices (GroupA) practices for 9th to 12th week Monday to Saturday.Classes begin and end with Chanting of"OM" and prayer.Duration of the class was 90 minutes

Table VII

No	Name of Asanas Pranayama	Breath	Duration	Rest Time	Repetition	Total Duration
1.	Pawan muktaasana	12-16	3minutes	1minute	1	4minutes
2	Padmasana	12-16	4minutes	1minute	1	5minutes
3	Ardhapadmavajra Bharadwajasana	12-16	4minutes	1minute	1	5minutes
4	Tadasana	12-16	4minutes	1minute	1	5minutes
5	Ardhakatichakrasana	12-16	4minutes	1minute	1	5minutes
6	ParivritaTrikonasana	12-16	4minutes	1minute	1	5minutes
7	Uttanapadasana	12-16	4minutes	1minute	1	5minutes
16	Halasana	12-16	4minutes	1minute	1	5minutes
9	Sarvangasana	12-16	4minutes	1minute	1	5minutes
10	Baddhakonasana	12-16	4minutes	1minute	1	5minutes
11	Uppavishtakonasana	12-16	4minutes	1minute	1	5minutes
16	Bhujangasana	12-16	4minutes	1minute	1	5minutes
13	Ardhasalabhasana	12-16	4minutes	1minute	1	5minutes
14	Salabhasana	12-16	4minutes	1minute	1	5minutes
15	Vakraasana	12-16	4minutes	1minute	1	5minutes
16	Ujjayi pranayama	12-16	4minutes	1minute	1	5minutes
17	Viloma 2 pranayama	12-16	4minutes	1minute	1	5minutes
18	Shavasana		6minutes			6minutes

TRAINING SCHEDULE FOR GROUP II

Yogic practices (Group B) for 1st to 4th week Monday to Saturday.Classes begin and end with Chanting of"OM" and prayer. Duration of the class was 60 minutes

Table VIII

No	Name of Asanas Pranayama	Breath	Duration	Rest Time	Repetition	Total Duration
1.	Pawan muktaasana	8 -12	3minutes	1minute	1	4minutes
2	Pranamasana	8 -12	2minutes	1minute	1	3 minutes
3	Hasthauthanasana	8 -12	2minutes	1minute	1	3 minutes
4	Padahasthasana	8 -12	2minutes	1minute	1	3 minutes
5	Ashwasanchalasana	8 -12	2minutes	1minute	1	3minutes
6	Parvatasana	8 -12	2minutes	1minute	1	3 minutes
7	Ashtangasana	8 -12	2minutes	1minute	1	3 minutes
16	Bhujangasana	8 -12	2minutes	1minute	1	3 minutes
9	Parvatasana	8 -12	2minutes	1minute	1	3 minutes
10	Ashwasanchalasana	8 -12	2minutes	1minute	1	3 minutes
11	Padahasthasana	8 -12	2minutes	1minute	1	3minutes
16	Hasthuthanasana	8 -12	2minutes	1minute	1	3 minutes
13	Pranamasana	8 -12	2minutes	1minute	1	3 minutes
14	Anuloma-Viloma	8 -12	9minutes	1minute	1	10minutes
15	Yoga Nidra		10minutes			10minutes

TRAINING SCHEDULE FOR GROUP II

Yogic practices (Group B) for 5th to 8th week Monday to Saturday.Classes begin and end with Chanting of"OM" and prayer. Duration of the class was 75 minutes

Table IX

No	Name of Asanas Pranayama	Breath	Duration	Rest Time	Repetition	Total Duration
1.	Pawan muktaasana	8-12	4minutes	1minute	1	5minutes
2	Pranamasana	8-12	4minutes	1minute	1	5minutes
3	Hasthauthanasana	8-12	4minutes	1minute	1	5minutes
4	Padahasthasana	8-12	4minutes	1minute	1	5minutes
5	Ashwasanchalasana	8-12	4minutes	1minute	1	5minutes
6	Parvatasana	8-12	4minutes	1minute	1	5minutes
7	Ashtangasana	8-12	4minutes	1minute	1	5minutes
16	Bhujangasana	8-12	4minutes	1minute	1	5minutes
9	Parvatasana	8-12	4minutes	1minute	1	5minutes
10	Ashwasanchalasana	8-12	4minutes	1minute	1	5minutes
11	Padahasthasana	8-12	4minutes	1minute	1	5minutes
16	Hasthuthanasana	8-12	4minutes	1minute	1	5minutes
13	Pranamasana	8-12	4minutes	1minute	1	5minutes
14	Anuloma-Viloma	8-12	4minutes	1minute		5minutes
15	Yoga Nidhra		5minutes			5minutes

TRAINING SCHEDULE FOR GROUP II

Yogic practices (Group B) for 9th to 12th week Monday to Saturday. Classes begin and end with Chanting of"OM" and prayer. Duration of the class was 90 minutes

Table X

No	Name of Asanas Pranayama	Breath	Duration	Rest Time	Repetition	Total Duration
1.	Pawan muktaasana	12-16	5minutes	1minute	1	6minutes
2	Pranamasana	12-16	5minutes	1minute	1	6minutes
3	Hasthauthanasana	12-16	5minutes	1minute	1	6minutes
4	Padahasthasana	12-16	5minutes	1minute	1	6minutes
5	Ashwasanchalasana	12-16	5minutes	1minute	1	6minutes
6	Parvatasana	12-16	5minutes	1minute	1	6minutes
7	Ashtangasana	12-16	5minutes	1minute	1	6minutes
16	Bhujangasana	12-16	5minutes	1minute	1	6minutes
9	Parvatasana	12-16	5minutes	1minute	1	6minutes
10	Ashwasanchalasana	12-16	5minutes	1minute	1	6minutes
11	Padahasthasana	12-16	5minutes	1minute	1	6minutes
16	Hasthuthanasana	12-16	5minutes	1minute	1	6minutes
13	Pranamasana	12-16	5minutes	1minute	1	6minutes
14	Anuloma-Viloma	12-16	5minutes	1minutes	1	6minutes
15	Yoga Nidhra		6minutes			6minutes

3.12 TRAINING PROCEDURE

3.12 Yogic practices (Group A)

PRAYER

Fig III

CHANTING OF 'OM'

SAHANAVAVTUSAHANOUBHUNAKTU

SAHAVEERYAMKARAVAVAHAI

TEJASVINAVATHITHAMASTU

MAVVIDHVISHAVAHAIHI

OM SHANTHI SHANTHI SHANTHI .

3.12.1.1 LOOSENING ASANA

FIG IV

Pawan means air

Muktha means release

Lie in tadasana exhale and lift the left knee to the chin with right leg straight on the ground

The same is repeated on the other side.

3.12.1.2 PADMASANA

FIG V

Padma means lotus.

Sit in dhandasana with both legs stretched

Place the right foot on the left thigh

Place the left foot on the right thigh

Repeat this with left foot on the right thigh

Place the right foot on the left thigh

3.12.1.3 ARDHA PADMAVAJRABHARDWAJASANA

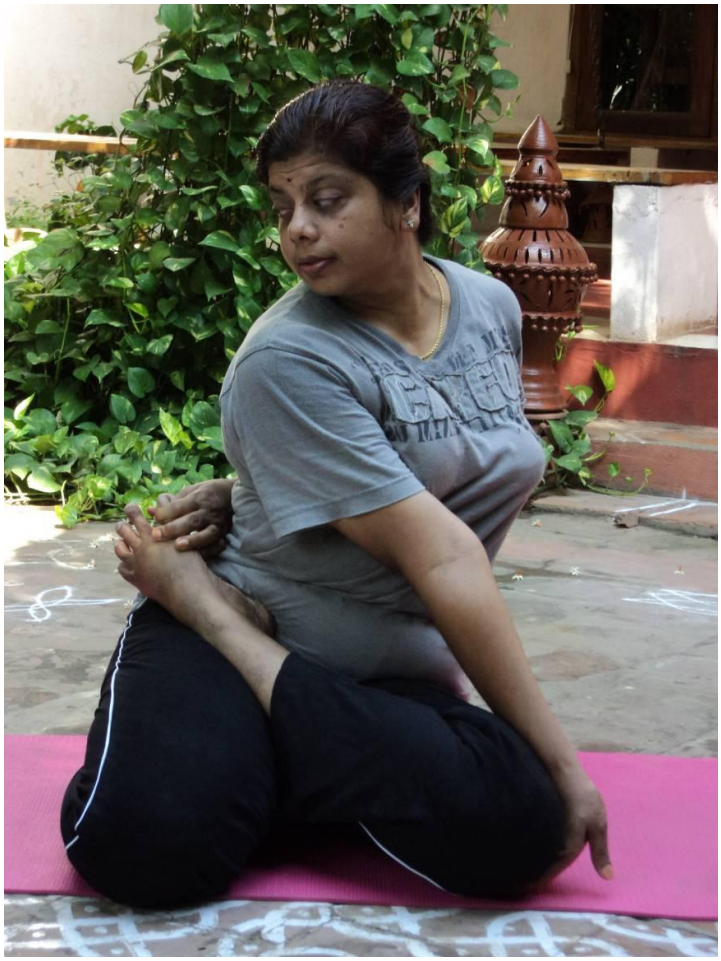

FIG VI

Ardha means half. Padma means lotus. Vajra means diamond, Bharadwaj means twisting which is named after the sage bharadwaj

Sit in dhandasana with both legs stretched out and hands by the side

Fold the right leg back and sit on it

Slowly place the left foot on the right thigh

Place the right palm on under the left thigh

Exhale stretch the left hand from behind and hold the left toe placed on the right thigh

Repeat the same on the other side

3.12.1.4 TADASANA

FIG VII

Tada means as firm as a mountain.

Stand with feet together.

Legs straight with no bend in the knees and spine erect.

Chest up and shoulders back

Hands placed straight by the sides.

Pull the stomach inside and knee caps up.

Stay in this position for some time.

3.12.1.5 ARDHAKATICHAKRASANA

FIG VIII

Stand in tadaasana

Slide the left palm along the left thigh

The right hand should be touching the right ear

Look in front and bend maximum to the left.

Repeat the same on the other s

3.12.1.6 PARIVRITA TRIKONASANA

FIG IX

Stand in tadasana and jump and place the legs 3 feet apart.

Right foot facing to the right and left foot facing

Stretch the arms to shoulder level.

Exhale and place the left palm on the back of the right foot.

Exhale and come up Repeat this on the other side

3.12.1.7 UTTANAPADASANA

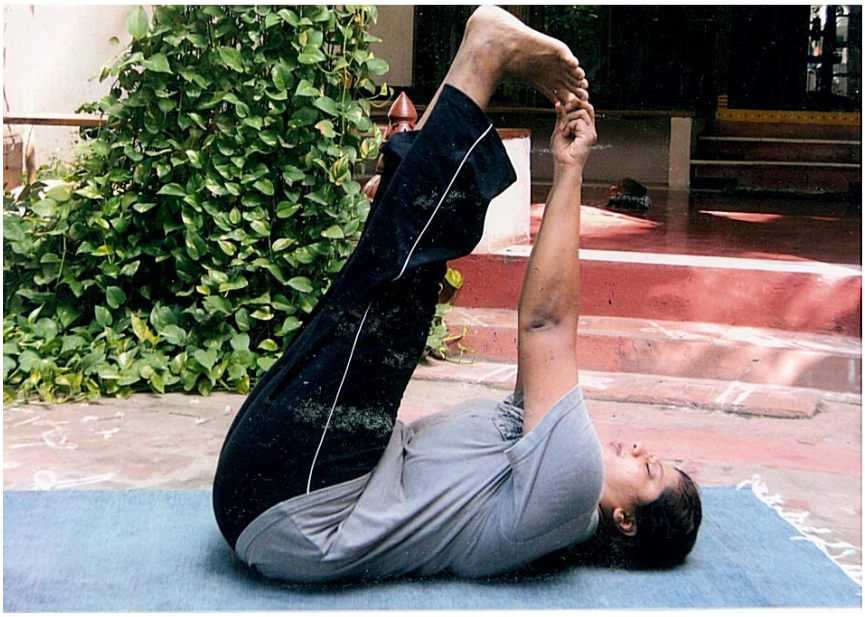

FIG X

Uttana means lifting

Pada means legs

Lie down in tadasana facing the sky.

Exhale and lift both the legs to 90 degrees and hold the toes with fingers.

Feel the stretch both on the hands and legs.

3.12.1.8 HALASANA

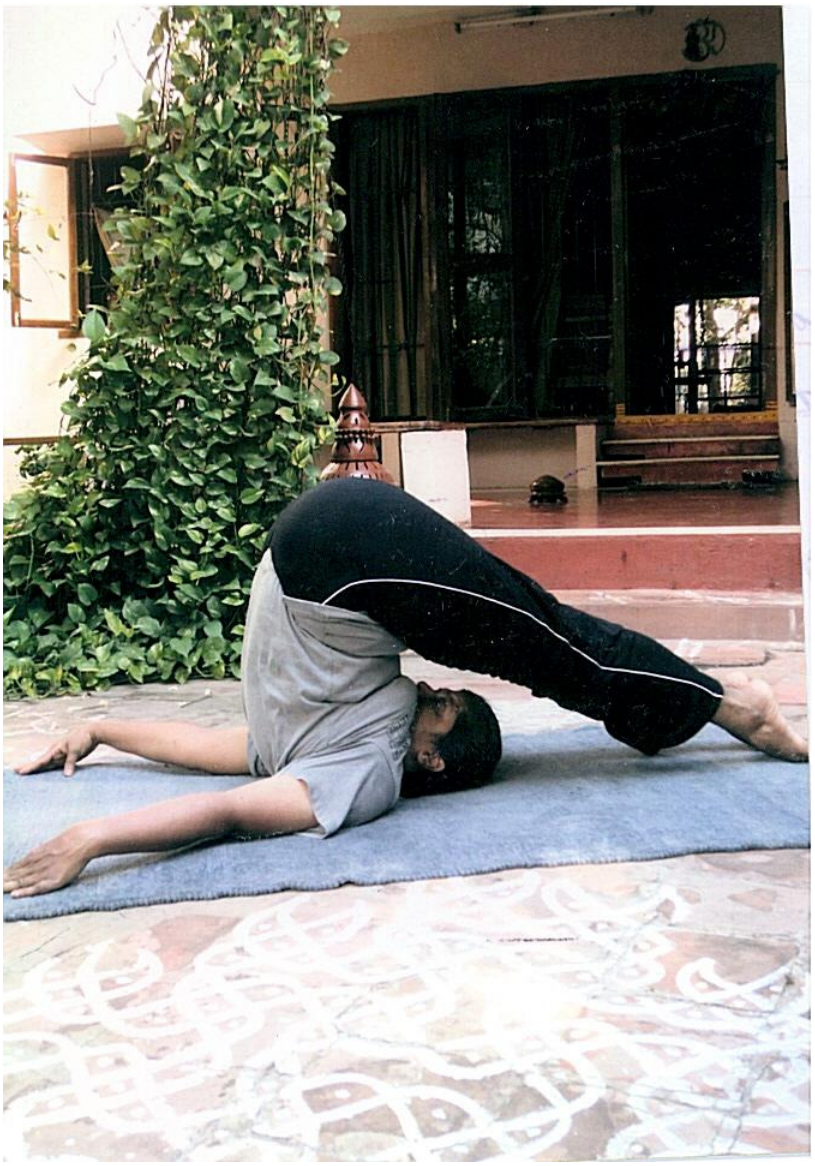

FIG XI

Hala means plough.

Lie in tadasana with hands by the sides.

Exhale and lift the legs and place them beyond the head with toes pointing outside.

3.12.1.9 SARVANGASANA

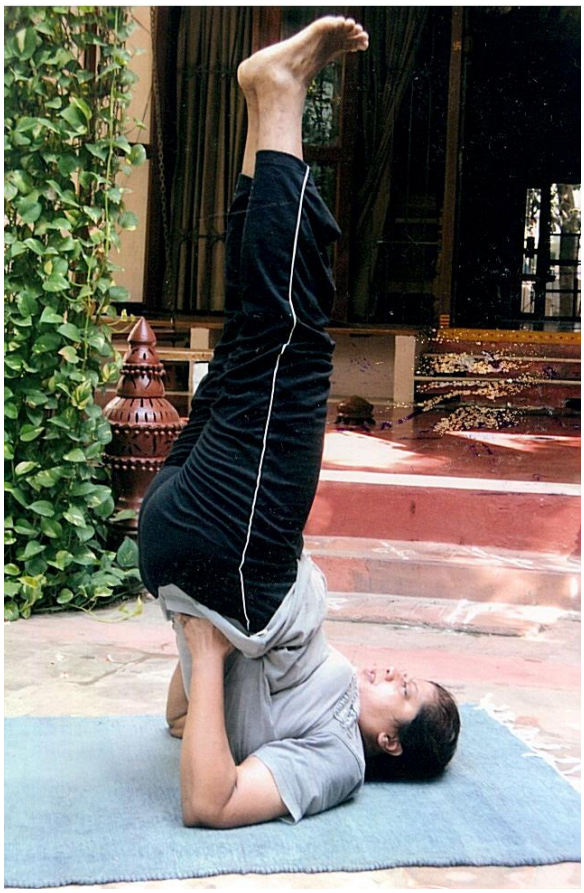

FIG XII

Sarva anga means all parts

Lie in tadasana

Exhale and go to Uttanpadasan

From uttanapadasana go to ardha halasana and lift the legs straight perpendicular to the ground.

3.12.1. 10 BADDHAKONASANA

FIG XIII

Badh means lock

Kon means angle.

Sit in tadasana with back erect.

Join both feet together and hold the toes.

Lift the toes and push the knees down

slowly bend from lower back

Place the chin on the ground.

3.12.1.11 UPPAVISHTAKONASANA

FIG XIV

Uppavishta means sitting down

Kon means angle

Sit in tadasana with back erect.

Sit with legs stretched wide apart.

Place the hands in front and slowly slide down

Rest the chest and chin on the floor.

3.12.1.12 BHUJANGASANA

FIG XV

Bhujanga means cobra.

Lie down with head facing the ground.

Place the palms by the

side of the chest and elbows touching the body.

Slowly lift the head then curl the body back.

3.13.1.13 ARDHASALABHASANA

FIG XVI

Ardha means half

salabha means locust

Lie down facing the ground. Place the hands under the thighs.

Lift right leg up with the support of the left leg to the maximum without bend in the knees.

Repeat this on the other side

3.12.1.14 SALABHASANA

FIG XVII

Salabh means Locust

Lie down facing the ground and hands locked under the thighs

Exhale and lift both the legs without the bend in the knees

3.12.1.15 VAKRASANA

FIG XVIII

Vakra means twisted.

Sit with legs stretched. Fold the right leg and place the foot near the left knee.

Bring the left hand between the chest and right knee and hold the right foot.

Right hand behind the left buttock

Repeat the same on the other side

3.12.1.16 UJJAYI PRANAYAMA

'Ud' means "expand" in Sanskrit.

Jaya means "conquest" in Sanskrit.

Prana means "life- force"

Ayama is the "distribution of energy"

Sit in a comfortable position with back erect.

This consists of deep inhalation and exhalation

Breath naturally but consciously. During inhalation chest expands fully without the diaphragm being tensed.

One should be conscious of breathing.

Exhale emptying the lungs without strain

Inhale slowly deeply and smoothly

Exhale silently until the lungs feel completely empty..

3.12.1.17 VILOMA 2 PRANAYAMA

Viloma means"against the natural course " in Sanskrit.In this pranayama one has to hold the breath for two seconda during each breathing cycle.

Sit with spine erect sternum lifted and diaphragm firm

Inhale and exhale without strain, slowly and deeply.Exhalation should last for 2-3 seconds.Then pause for 2 seconds before inhaling.

Breathing should fade effortlessly at each pause and resume equally easily.

Exhalations should be longer than the pause.

While doing the cycles one should concentrate on silences of the pauses.

3.12.1.18 SHAVASANA

Fig XIX

Shavasana- lie down flat on the floor facing the sky, hands close to the body, legs stretched out with a gap between the feet. Concentrate on the breathing.

CONCLUDING PRAYER

OM POORNAMADHA POORNAMIDHAM

POORNAATH POORNAMUDHACHYAATHE

POORNASYA POORNAMAADHAYAA

POORNAMAEV AVASHISHYATHA

OM SHANTHI SHANTHI SHANTHIHI

3.12.2 Yogic practices (Group A)

3.12.2.1 PRANAAMASANA

FIG XX

Pranam means slutation

Stand in tadasana with hands folded in front of the chest and back erect.

3.12.2.2 HASTAUTTANASANA

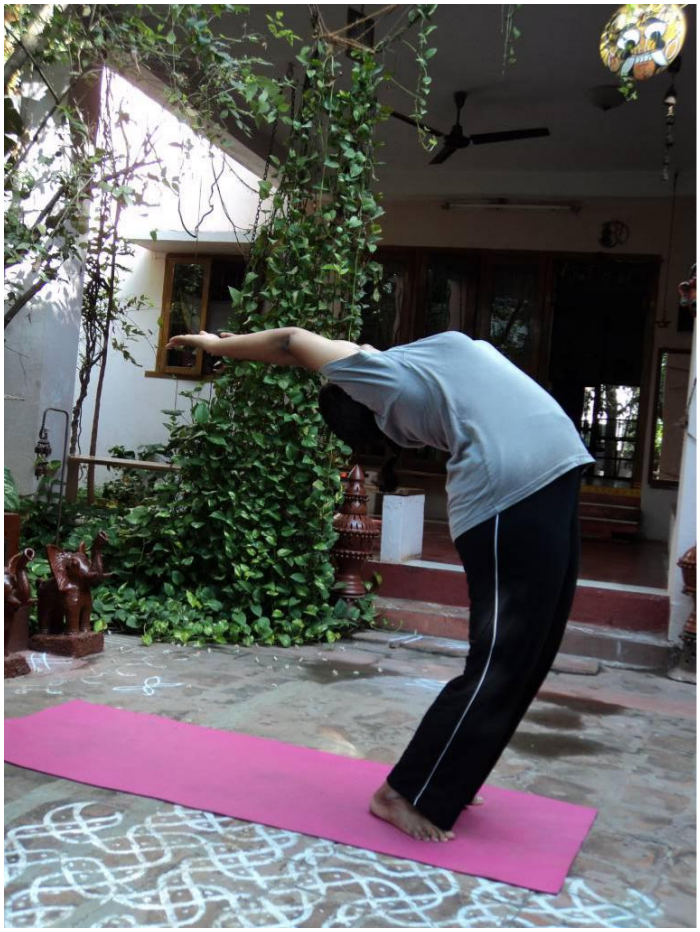

FIG XXI

Hastta means hands.

Uttana means lifting.

Inhale and lift the hands above the head and bend back.

3.12.2.3 PADAHASTASANA

FIG XXII

Pada means feet.

Hasta means hands.

Exhale and bring the hands and touch the floor with legs straight.

3.12.2.4 ASHWASANCHALASANA

FIG XXIII

Ashwa means horse.

Sanchala means riding.

Bend the right leg and stretch the left leg behind .

Hands joined at the palms should go back and bend the head back.

3.12.2.5 PARVATASANA

fig XXIV

Parvat means mountain.

Exhale while place the right foot close to the left foot,

Palms on the ground a little away from the feet and lift the body.

3.12.2.6 ASHTANGASANA

Fig XXV

Ashta means eight.

Anga means limbs.

Bring the knees on to the ground navel up chest on the floor and head up

3.12.2.7 BHUJANGASANA-

FIG XXVI

Bhujanga means snake

Lie down with head facing the ground.

Place the palms by the side of the chest and elbows touching the body.

Slowly lift the head then curl the body back.

Repeat Parvatasana

Ashwasanchalasana

Padahastasana

Hastauttanaasana

Pranaamasana

3.12.2.8 ANULOMA VILOMA PRANAYAMA

Means inhalation and exhalation and purifying of breath.

Sit in comfortable meditative posture with spine erect and body relaxed.

The body must be absolutely still.

After some time be aware of breathing in the nostrils.

While breathing in awareness should flow from tip of the nose to the eyebrow centre.

While breathing out awareness should flow from eyebrow centre to tip of the nose

Block the right nostril and inhale and exhale through the left nostril.Similarly repeat on the right side.Next inhale through the left and exhale through the right.Repeat this on the other side.

Finally block the right nostril exhale through the left nostril fully then inhale through left nostril and block the left nostril and exhale through the right .in hale through the right and block the right nostril and exhale through the left.

3.12.2.9 YOGA NIDRA

FIG XXVII

Shava means dead body. One of the main classical texts of yoga,called Hatha yoga pradeepika written by Yogi Swatmarama in the 16th century explains shavasana as below

"Uttanam shvavad bhoomau shayanam tachavasanam

Shavasanam shanthiharam chithavishranthikarakam"

lie down flat on the floor facing the sky, hands close to the body, legs stretched out with a gap between the feet.

Concentrate on the breathing.

CONCLUDING PRAYER

OM POORNAMADHA POORNAMIDHAM

POORNAATH POORNAMUDHACHYAATHE

POORNASYA POORNAMAADHAYAA

POORNAMAEVA AVASHISHYATHA

OMSHANTHI SHANTHI SHANTHIHI

3.13 TEST ADMINISTRATION

3.13.1 PHYSIOLOGICAL VARIABLES

PULSE RATE

Purpose: to record Pulse Rate

Equipment: Digital pulse measuring equipment

Procedure: The subject will be seated on the chair and pulse is recorded from the brachial artery from the arm through apparatus.

Scoring: normal score is 72 pulse per minute.

VITAL CAPACITY

Purpose: to record the vital capacity.

Equipment: Spirometer.

Procedure: inhale to a maximum and note how long complete exhalation takes. During the test soft nose clips may be used to prevent air to escaping through the nose. A filter mouth piece may be used

Scoring: number of seconds one take to exhale completely is the score. A normal adult has a vital capacity between 3 to 5 litres. Vital capacity depends on age, sex, height, weight and ethnicity.

Estimated Vital Capacity

Table 11

Age in years	35-45	45-55
Vital Capacity in cm3	3225	3050
Height in cms	165-170	175-
Vital Capacity in cm3	3720	4300

Vital Capacity in male

(27.63 - 0.116a) * h

A is age

H is height

BLOOD PRESSURE

Purpose: To measure the blood pressure

Equipment: Digital Blood pressure measuring apparatus

Procedure: Blood pressure will be measured by digital Blood pressure measuring apparatus. It involves a pressure cuff. The cuff was placed around the subjects upper arm approximately at heart level .Systolic blood pressure was found y listening to the flow of blood just below the cuff. As the cuff pressure was gradually reduced, the pressure at which the sounds disappear or becomes muffled, was recorded as diastolic blood pressure. The difference between systolic and diastolic is referred to as the blood pressure.

Scoring: Normal score is 160/160mmHg

Table XII

LEVEL OF SEVERITY	Systolic Blood pressure	Diastolic blood
Mild Hypertension	140 - 160	90 - 100
Moderate Hypertension	160 - 200	100 - 160
Severe Hypertension	Above 200	Above 160

3.13.2 BIO-CHEMICAL VARIABLES.

TOTAL CHOLESTROL

Purpose- to check cholesterol levels

Equipment- lab test

Procedure-blood sample results obtained from lab test

Scoring- results obtained from lab test.

Total cholesterol reference range

Table XIII

Normal	<200mg/dl
Borderline high	200-239mg/dl
High	>240mg/dl

Table XIV

Triglycerides mg/dl

LDL

Normal	Less than 150mg/dl
Borderline	150-199 mg/dl
High	200-499 mg/dl
Very high	500 mg/dl

Optimal	<100 mg/dl
Above optimal	160-169 mg/dl
Borderline high	130-159 mg/dl
High	160-1169 mg/dl
Very High	190 mg/dl

Table XV LDL

CHOL/HDL RATIO

Normal	<3.3
Low risk	3.3-4.4
Average risk	4.4-7.1
Moderate risk	7.1-11.0
High risk	>11

Table XVI

VLDL –**table XVII**

VLDL	<30 mg/dl

BLOOD SUGAR

Purpose- to note fasting and post-prandial levels

Equipment-lab test

Procedure-blood sample

Scoring-.Results obtained from the lab.

The **blood sugar concentration** or **blood glucose level** is the amount of glucose (sugar) present in the blood of a human or animal. Normally, in mammals the body maintains the blood glucose level at a reference range between about 3.6 and 5.16 mM (mmol/L). It is tightly regulated as a part of metabolic homeostasis.

Reference levels: Glucose fasting

Table XVIII

Normal range	70-99mg/dl
Impaired fasting glucose	100-165mg/dl
Diabetic range	>165mg/dl

Post Prandial range

Table XIX

Normal	<140mg/dl
Impaired glucose tolerance	140-199mg/dl
Suspect Diabetese	If>200 mg/dl

LIVER TEST

Purpose- to note billirubin and billiverdin levels

Equipment-lab test

Procedure-blood sample

Scoring-. Results obtained from the lab.

Liver function tests Liver is the largest organ in the body .The right lobe is larger than the left lobe. it is made up of lobules formed by cells called hepatocytes. Two hepa

tic ducts drain the bile from the liver. Liver is a highly vascular organ with a total arterial and venous flow of 1500ml per minute. The liver is the last gate after which the inferior venacava returns with venous blood from the lower half of the body to the heart. It is capable of mobility of around 3cm during quiet breathing.

The liver carries out a wide range of functions

1. Carbohydrate metabolism. Storage or release of glucogen from glucose

2. Protein metabolism

Synthesis of plasma proteins and their export into the blood is a major function

Albumin it is a protein made by the liver. It is the main constituent of total protein.

Deficiency in albumin leads to cirrhosis, nephrotic syndrome where albumin is lost through urine. Low albumin can be edema Reference range is 3.5 to 5.3g/dL

Bilirubin-

Fat from diet is broken into many fragments. Bilirubin is a pigment produced by the liver. Bile acids and bile salts are also formed. Bile is formed from the cholesterol synthesized by the liver

Uncojugated bilirubin is one of the broken down products of blood it is apart of hemoglobin in the red blood cells. It relies on transportation on albumin that is circulating in the blood. High hydrophobic drugs and high fatty acids can cause elevated unconjugated bilirubin. Heme comes from myoglobin found in muscle, cytochrome found in mitochondria.the liver .In the intestine, conjugated bilirubin may be

1. Metabolized colonic bacteria

2. Eliminated

3. Reabsorbed

Metabolism of urobilinogen followed by reabsorbing urobilinogen accounts for the yellow colour of urine and further metabolism urobilinogen while in the bowel accounts for the brown color in the stools. White or clay coloured stools indicate blockage in bilirubin processing and thus a liver dysfunction or cholestatis. Increased bilirubin causes Jaundice. Prephatic increase bilirubin is caused by internal hemorrhage or anemia. Hepatic deficiency in bilirubin caused by cirrhosis and viral hepatitis. Posthetic is the obstruction in the bile duct reflects deficiency in bilirubin excretion. It is a blood test done to find out liver disorders, liver disease and extent of liver damage. Albumin and total bilirubin levels are also found out Reference range is 0.1 to 1.0 g/dL

Table XX

Albumin	3.2-5 g/dl
Total bilirubin	0.1-1.mg/dl

3.13.3 PSYCHOLOGICAL VARIABLES

JOB INVOLVEMENT

Purpose-to know the job involvement

Equipment- job involvement questionnaire Asok Pratap Singh

Procedure-Here is a list of statements given to read each one of them carefully at the end of each statement is a scale given four point descriptions

Strongly agree, Agree, Disagree, and strongly disagree

You may put tick mark against appropriate column which is suitable

Scoring-The score for the response against each statement in the Job involvement Scale is given below

TABLE XXI

Strongly agree	1
Agree	2
Disagree	3
Strongly disagree	4

By adding, the total score for an individual can be obtained. The total score ranges from 40-160.

STRESS

Purpose- to assess the stress levels

Equipment- Latha Sathis questionnaire

Procedure-Questionnaire describing 52 events which causes mental stress was given to the subjects and they were asked to fill yes or no along with the level of control exercised by them over event. Level of control is assessed in three groups Complete control Partial control and no control.

Scoring-If the answer is yes a score of one two and three is assigned for complete control, partial control, and no control respectively. I answer is NO then no score is assigned as the event does not bring any stress to the subject The level is stress driven taking into account the score obtained by the subject..Lower the score is considered it refers to less stress and vice-versa.

ORGANISATIONAL CLIMATE

Purpose-to measure organizational climate

Equipment- organizational climate questionnaire Shailendra Singh

Procedure-This questionnaire can be administered both in individual setting and group setting. This questionnaire has 31 items under 9 sub head, each describes some characteristics of work in an organization .Each statement is to be rated on a 5 point scale as described below

Table XXII

1	Means true to almost no extent
2	Means true to a small extent
3	Means true to some extent
4	Means true to a great extent
5	Means true to very great extent

There is no time limit but one has to work as quickly as possible

Scoring-Each statement is scored on a 5 point rating ranging1 to 5 and may be interpreted as below

Interpretation

Table XXIII

30 to 70	Poor perception
71to110	Moderate
111to 150	Good perception

Table XXIV

SCORE	FIVE POINT RATING
1	Means true to almost no extent
2	Means true to a small extent
3	Means true to some extent
4	Means true to a great extent
5	Means true to very great extent

3.14 COLLECTION OF DATA

To achieve this purpose only three groups consisting of 30 subjects each were selected. Group I was given pavanmukthasanas and Cultural asanas. Group II was given pavanmukthasanas and Suryanamaskar. After 16 weeks training period all the traffic policemen were tested on selected criterion variables at different stages such as pre-test and post-test.

3.15 STATISTICAL TECHNIQUE

The Analysis of Covariance (ANCOVA) was used to find out the pre-test and post-test significance difference among the 3 groups. To find out the paired mean differences Scheff's Post Hoc test was used.


காவல்


காவல்
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POLICE
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POLICE


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FLOW CHART SHOWING METHODOLOGY ADOPTED IN THIS STUDY