

CHAPTER I

INTRODUCTION

1.1 INTRODUCTION

A person who has balance in enjoyments, movements, interactions, physical activities and sleep, gains mental composure by which he can overcome his mental disturbances. The word balance is used to mean only need based. If all that man does is done according to needs, he enjoys doing them and he does them without carrying out to extremities then he is said to lead a life of yoga. This balance in life is a part of Meditation.

Yoga is primarily a philosophical science during mans search for the meaning of existence. In ancient times when people lived the yogic way, good health was a sequel to their daily life style. But in recent times, due to mans changing values and life style, health deteriorated and yoga gained ground in its use as therapy

Ill health and management of disease in today's world are not just due to physical reasons, but due to decay in moral standards .Hence, curative methods should not be confined to material plane alone. Yoga is a form of medicine. It can prevent and cure many ailments. This fact has been accepted. It is therefore necessary to give it the status of primary form rather than alternate system. This is the only system of medicine that has stood the test of time without any modification. Modern medicine undergoes so much of change whether in the form of terminology or newer drugs to tackle old diseases. Unlike modern medicine yoga has never changed its theories, terminologies in relation to health and disease since ancient times.

Yoga gives clear cut guidelines both for prevention and cure. Whenever western medicine fails to deliver, people are turning to natural remedies including yoga.

The ancient rishis had stated that a disturbed mind is the cause of all disease. Now there is clear proof that mental stress produces many diseases like coronary, respiratory disorders, ulcers, skin disorders and low immune system. This mental stress is caused by disorganized behavior inside the psyche.

When the mind is silenced by the practice of asanas and pranayama, the senses are quietened and perception is altered leading to a sense of detachment. Then the person uses innate intelligence to stay away from seemingly pleasurable situations. This in itself guarantees health to an individual.

However, it is not possible for medicine to prove many of the benefits of yoga, as all the mechanisms are at a very subtle level. It is a fact that a human mind is a source of immense energy. We normally use only one tenth of the capacity of our brain cells. The yogis with immense self control, accomplished capacity for super normal healing using their full brain capacity and have often demonstrated this. This cannot however be checked by modern medical gadgets. That, human will is a considerable force in overcoming many illnesses has been shown time and again. Modern medicine refrains from commenting beyond this point, but yoga has explored this and has realized that it is possible to achieve a state of mind over the matter. According to the Yoga Upanishad there are ten vital principles with specific functions in the body. To quote an example "a dyspepsia problem according to yoga is governed by vital principles known as apana and naga vayu the former regulates build up of air in the intestinal tract while the latter

governs the belching. Asanas like twisting, forward and backward bending regulate the vital principles in the abdominal organs. When the asanas are practiced, excess wind formation and belching are controlled. This is due to the regulation of the mechanism that governs the proper functioning of the cells. Such situations have to be experienced but cannot be measured or explained by theory.

In the Darshanopanishhad it is said that he who has conquered posture is the master of the three worlds-body, mind and soul. This means total health care in medical terms.

Yoga also uses posture correction to correct inner malfunctions according to natural principles. Yoga treats diseases using the process where in, the disease is first made interrupted, then attenuated, then dormant and then made to disappear. The yogic method is step by step, never in a hurry and works along the principles of evolution of a disease.

1.2 YOGA AS DIAGNOSTIC TOOL

Yoga is a useful tool in diagnosing many problems. Clinical medicine and modern medicine rely more and more on expensive and unnecessary tests .In the process our innate skill and intelligence in diagnosis is lost. As an eminent doctor put it “with all our varied instruments useful as they are, nothing can replace the watchful eye, the alert ear, tactful finger and logical mind”

The diseases should be identified and eliminated at the embryonic stage many years before they manifest.

Yoga analyses a person in terms of ability to perform certain postures and predicts the probability of the person suffering from a low backache in the future.

When a person with spine doubled up and ribcage compressed, yoga understands that such persons will suffer from backache and because the heart and major blood vessels are compressed in such a posture, healthy and pure blood cannot flow into the heart muscles. All inner organs also suffer due to reduced blood supply.

1.3 YOGA FOR PREVENTIVE CARE

With the family doctor and general practitioner replaced by specialist, the cost of diagnosis treatment medicine has gone up tremendously, much to the benefit of the doctor and the patient are the losers. Clean surroundings and drinking water, good food habits, exercise, regular checkup and refraining from alcohol, nicotine, drugs and permissive sex have a beneficial effect on preventing various diseases. When an individual does not show enough discipline to take care of himself, lands up as a victim of AIDS. This is where yoga steps in and lays the foundation for a healthy life through disciplining the mind by emphasizing the fact that undisciplined lifestyle and its excesses are not the means to happiness..

Yoga lays great emphasis on asanas and pranayama to prevent illness and more important to preserve health. Yoga is an ideal form of exercise as it is totally non invasive, gentle, soothing and most cost effective. No equipment is needed; some props used for patients are also very cheap. Yoga instills confidence in person especially for those recovering from any illness. Yoga is particularly valuable as one grows older

Yoga is universally beneficial and suited to all with appropriate modifications. Once the individual is physically strong, he becomes mentally and emotionally also very strong. As a result he will be more efficient and there will

be a sense of involvement in all his actions and will enjoy doing whatever he does. All asanas have a direct or indirect bearing on the nervous system which enhances the thinking capacity besides blessing one with physical health.

This being the case, the health of the police is of prime importance to the well being of the state. This study has been undertaken to bring to light the benefit of asanas and pranayama to the police to enhance their health, well being, efficiency and performance levels. Police is the life line of any orderly activity in any civilized society. Their physical, psychological and emotional wellbeing is of vital importance. For which practice of yoga would be very valuable and therefore enhance the proper functioning of the police force. A bird's eye view of the police and its varied functions is given here under.

1.4 POLICE

Existence of police has its roots in the early man when conscience was guiding him to the right path therefore keeping him away from the wrong, but for which, man would not have emerged from the animal level to a social being guided by **Dharma or righteousness**. Hence the role and need of a police man was born to guide man in a family, corporate and social world over thousands of years.

1.5 HISTORY OF POLICE

Man grew first into a tribe then slowly and gradually into nations. Then work was attributed to small groups. When each group was specializing in certain skills , it became necessary to develop courts and rules of conduct to guide and control the society either by force, religion or law.

Earlier a king was elected and persons were appointed by him to enforce law. This saw the birth of a policeman in its earliest form. An organized police force is the essence to the sum total of all the individuals in the society. Organized police helps the individual to carry out its work peacefully and uninterruptedly. The ability of a society to face the challenges of nature, internal and external threats and problems depend entirely on the capacity and capability to guide and control the group.

When society becomes corrupt it loses its cohesiveness and power of resistance and collapses in the face of successive challenges. Only when internal cohesiveness is maintained society can overcome the numerous challenges that threaten its very existence. Only with the protection of the police, society can face heavy weather from innumerable external enemies. Hence, the need for police is to guide and preserve the cohesiveness of a developing and complex society and prevent it from disintegrating.

Police gives direction and helps them in the society's part of development. Hence police in one form or other existed since earliest times in society and has to remain as long as society wants to be civilized and progressive.

The state is akin to the original idea of a tribe, it sets up a legislator to legislate, judiciary to try, breaking of rule and law, and the body of executives to carry out the day to day policing. All work carried out by the state on behalf of the people is done by exercising the power delegated to it by the people, so that , the people are free to carry out their duties peacefully and uninterruptedly. The functions and powers of the police is enormous and covers every branch of civil administration and regulates all functions and activities of the society –protecting

human life, property, honor, religion and everything that man has created on the journey to become a civilized society and restraining all that degrades or destroys the progress of society, uniting all forces to realize happiness and prosperity.

Police is the sole primary constitutional force in the state to protect the fundamental, legal and economic rights besides protecting and upholding the constitution of the nation.

It takes all kinds of people with all kinds of interests to form any society where everyone's right has to be protected without being transgressed. Hence, the need for the police is to preserve and protect the basic rights and interests of the individual in any society. Hence the role of police came in to stay since the days of early kings, that is to punish the wrong doers, law breakers and to protect the harmless and peaceful citizens.

1.6 MEANING OF POLICE

Meaning of police is force for the city .In ancient India the chief police officer was nagarapala. Great importance was given to organize the police force at that time since the basic duty of the state was to maintain peace, law and order and extend protection to all by deterring the wrong doers.

In the villages it was the local collective responsibility and mutual cooperation, where as in the town it was uniform patrol, criminal investigation, identification, prevention and detection of crime.

The present Indian police system is based o the police act of 1861.Under this act the police is subordinate to the executive government. In 1903, 1907

several changes were brought in the structure and functioning of the police system. After independence the police force in our country was given the responsibility of maintaining law and order, prevention and detection of crime under article 246 of the constitution of India. Police is maintained and controlled by the state. The home department coordinates and supervises police administration maintained by the Director General of Police in each state. In the cities the police force is maintained and controlled by Commissioner of Police.

1.7 ORGANISATION OF MADRAS CITY POLICE

Birth of the Madras city Police began with the British acquiring Chennai pattanam. A local chief official or agent was appointed and later he was called governor. He was allowed collection of allowance from traders and merchants in the 17th century.

Under the police we have law and order, traffic, arm reserve, armed police, intelligence, CID, crime, deputation to other organization, all women police, technical services, police radio branch and SSG.

1.8 HISTORY OF TAMILNADU TRAFFIC POLICE

Under the head of traffic police, police started functioning in 1929 under a Deputy Commissioner of Police, a post created in 1929 itself.

Traffic constables were on the road during that time to regulate the buggies.

1.9 DUTIES OF TRAFFIC POLICE

1. Enforcement of traffic rules
2. Regulation of traffic especially against dangerous driving
3. Check over speeding
4. Check drunken driving
5. prevent riding without helmet
6. To check smoke emission
7. Prevent foot board travel.

1.10 OBJECTIVES OF TRAFFIC POLICE

1. To provide smooth and safe flow of pedestrian and vehicular traffic
2. To enforce traffic rules and regulation effectively
3. Through awareness programmers' provide education to inculcate road safety.

In short, education, regulation and enforcement of all traffic rules for smooth and safe flow of traffic

The police in all departments much more so the traffic are under constant pressure, stress, exposure to the vagaries of nature, and pollution. Unless importance is given to the proper upkeep of their health we cannot expect them to discharge their duties to the utmost. On the state of mental, physical, psychological well being of the police, to a great extent depends on the well being of the state. Hence the study of general maladies affecting them due to the

working conditions, together with the performance with the related prescribed asanas and pranayama to cure them was undertaken.

1.11 DIMENSIONS OF HEALTH

Health is multidimensional. W.H.O definition envisages three specific dimensions- the physical, the mental and the social. Many more may be cited, viz. spiritual, emotional, vocational, and political dimensions.

1.12 FACTORS CAUSING ILL- HEALTH

1. Social and family
2. Occupation
3. Political
4. Ecology
5. Physical and psychological
6. Moral values
7. Social changes
8. Pollution, light, noise and air
9. Long standing hours
10. Vagaries of weather
11. Lack of toilet facilities
12. Untimely food

1.13 SYMPTOMS FOR ILL- HEALTH

1. Physical
2. Behavioral

3. Emotional
4. Mental
5. Genetic etc.

1.14 SCIENTIFIC CORRELATES OF ILL- HEALTH

1. Heart rate increases
2. Blood pressure increases
3. Muscle tension increases
4. G.S.R decreases
5. Respiratory rate increases
6. Oxygen consumption increases
7. Spasm of arteries
8. S.cortisol increases
9. S.catecholamines increases
10. Blood sugar increase
11. Serum cholesterol increases
12. Acid in stomach increases
13. Drying of saliva
14. Bowel and bladder tone decreases

1.15 A LIST OF COMMON DISEASES

1. High blood pressure
2. Angina on chest pain
3. Heart attacks
4. Tension headache

5. Migraine
6. Back ache
7. Shoulder ache
8. Spondylosis
9. Palpitation
10. Allergies
11. Asthma
12. Chronic fatigue
13. Anxiety state
14. Phobias
15. Insomnia
16. Depression
17. IBS
18. Peptic ulcers
19. Lung problems
20. Eye problem
21. Ear problem
22. Varicose veins
23. Sciatica
24. Knee problem
25. Ankle problem
26. Numbness in the feet
27. Liver problem
28. Kidney problem
29. Cancer

30. Skin problem
31. Stomach and intestinal problems
32. Teeth and mouth problems
33. Nasal problems
34. Giddiness
35. Allergies
36. Low immunity
37. Weak bones
38. Problems of the brain
39. Problems of nervous system
40. Problems of glands and hormones

1.16 FACTORS FOR ILL- HEALTH

a) Modifiable factors

1. High Blood Pressure
2. High cholesterol
3. Smoking
4. Alcoholism
5. Diabetes
6. Lack of exercise
7. Obesity
8. Stress

b) Non-modifiable factors

1. Heredity
2. Age
3. Sex

1.17 PREVENTION OF ILL HEALTH

1. Proper diet
2. Positive habits
3. Regular medical check up
4. Equanimity of mind
5. Regular exercise
6. Yogic life style

1.18 ALTERNATIVE MEDICAL TREATMENT

AYURVEDA

This is an ancient method of treatment that has its origin ever since nature existed. This was formulated by the rishis and handed down to us .This is a holistic method of treatment .Herbs are the main ingredients used in this type of medicine.

HOMEOPATHY

Homeopathy is an alternative form of medicine .It originated in Germany. The medicines are all natural herbal extracts. **Like cures like** is the basis of this medicine.

SIDDHA

This is an ancient form of medicine given to us by the siddhars of Tamil Nadu. This form of treatment has a history of more than 2000 years. Medicines are mostly herbal extracts.

ACCUPRESSURE

In this method of treatment the pressure points are first marked and then pressure is applied to remove any energy block and activate free flow of energy.

ACCUPUNCTURE

In this method of treatment the pressure points are first marked and then needles are pricked to remove any energy block and activate free flow of energy.

UNANI

Unani treatments involve extensive use of herbs and other material, many of which are commonly available.

NATUROPATHY

This is an age old tradition. It works on the principle of removal of morbid matter at any level in the body. This is a system of man living in harmony with constructive principles of Nature on physical, mental, moral and spiritual planes. It has great health promotive, disease preventive, curative as well as restorative potential.

1.19 YOGA

Concepts and practice of Yoga originated in India several thousand years ago. Its founders were great saints and sages .The great Yogis gave rational interpretation to their experiences of Yoga and brought about a practical and scientifically sound method within every ones reach. Yoga today is no longer restricted to hermits, saints and sages, it has taken its place in our everyday lives and has aroused a world wide awakening and acceptance in the last few decades. The science of Yoga and its techniques have now been reoriented to suit modern sociological needs and lifestyle. Experts of various branches of medicine including modern medical science are realizing the role of these techniques in the prevention of disease, mitigation and cure of disease and promotion of health.

1.20 SALIENT FEATURES OF YOGA

1. Yoga a universal practical discipline.
2. Yoga as evolutionary process
3. Yoga as soul therapy

1.21 TYPES OF YOGA

Karma Yoga: Teaches us to perform all right actions without having any anxiety for the fruit.

Gnana Yoga: Teaches us to discriminate between the self and the non-self.

Bhakti Yoga: is a system of intense devotion with emphasis on doing all actions with the attitude of prayer.

1.22 GENERAL CHARACTERISTICS OF YOGIC PRACTICES

1. The yogic system of health involves the exercise of skeletal as well as the deep seated smooth muscles of the body.
2. The internal pressure changes (e.g intra-abdominal) may be mentioned as special characteristics of the yoga system of health.
3. Very little expenditure in terms of energy and money is involved in the hatha yoga practices.
4. The rich and the poor, men and women of all ages can practice yoga.
5. The nature of yogic practices is psycho neurophysical.
6. All yogic practices are complimentary to each other.

1.23 ASHTANGA YOGA

The Ashtanga yoga should be followed for a healthy body and mind. They are

1. Yamas (Observances)
2. Niyamas (Restraints)
3. Asanas (Postures)

These are special patterns of postures that stabilize the mind and body through static stretching. Their aim is to establish proper system in the neuromuscular tonic impulses and improve the general muscle tone. Two basic principles governing the performance of asanas is psycho-neuro physical and physical. Every asana should be performed effortlessly and maintained for a

comfortable length of time. There should be no jerks and the performance of asana should not lead to undue fatigue.

Asanas may be classified as;

Meditative;

Cultural and

Relaxative

a) Meditative Asanas are sitting postures, which maintain the body in a steady and comfortable condition. By various arrangements of the legs and hands different Meditative asanas are performed. The characteristic feature of the meditative asanas is, keeping the head, neck and trunk erect.

b) Cultural Asanas involve static stretching which brings about proper tone of muscles. They contribute to the flexibility of the spine and thus make the spine and back stronger. They also stimulate proper working of the vital organs in the thoracic and abdominal cavities. There are innumerable varieties of Cultural Asanas which are performed in sitting, lying and standing positions.

c) Relaxative Asanas are few in number. They are performed in lying position and are meant for giving rest to the body and mind

4. Pranaayama-breathing techniques
5. Prathyahara- Control of thoughts,
6. Dharana –concentration
7. Dhayana- contemplation
8. Samadhi- final stage.

1.24 KOSHAS

The pancha koshas are the five layers in a human being

Annamaya kosha is the physical body and nourishment is the food we eat

Pranamayakosh is the energetic body and is activated by prana

Manomayakosha is the psychic body is activated by thoughts

Vigyanamayakosha is the conscious body discrimination takes place

Anandamayakosha is the transcendental body it is the state of bliss

1.25 SHARIRAS

The pancha koshas are the five layers in a human being that are divided into three sheaths

Sthula sharira-Physical body- Annamaya kosha

Sukshma Sharira-Astral body Pranamayakosh Manomayakosha
Vigyanamayakosha i

Karana Sharira-causal body Anandamayakosha

1.26 MAHABOOTHAS

The body is made up of the 5 elements or 5 types of matter they are

Akash-space

Vayu-air

Agni-fire

Aapa-water and

Prithivee-Earth

1.27 CHAKRAS

Chakras are the psychic centres in the subtle body. They have their physical representation in the various nerve plexuses and glands .The 8 chakras are

Mooladhara chakra- located half way between the anus and genitals in men and behind the cervix in the females

Swadishtanachakra-located in the sacral area of the spine just above the pubic bone.

Manipurachakra-Located just behind the naval

Anahatachakra-Located just behind the heart

Vishuddhichakra-Located just behind the neck

Agniyachakra-Located just between the eye brows

Sahasrachakra-Located at the crown of the head

1.28 DOSHAS

They control the physiological and psycho-chemical activities of the body

Vatha is responsible for all the movements and sensations, including motor actions in the body.

Pitta is responsible for all the physiochemical activities of the body in the form of metabolism ,production of heat and energy

Khapa governs the structure of the body. It is the principle that holds the cells together and forms muscle, fat, bone and sinew. Primary function of khapa is protection.

1.29 GUNAS

Nature has three basic qualities they are

Satvic –the principle of light, perception, intelligence and harmony.

Rajasic –the principle of energy, activity, emotion, ambition and turbulence, and

Thamasic – the principle of inertia, darkness and resistance.

1.30 NADIS

Nadis are flow of energy or pressure points .According to yoga shastra it is the main under lying energy structure that gives body life. There are seventy two thousand nadis. The main nadi is Sushumna nadi, Ida nadi or Chandra nadi related to manas shakthi (mental energy) and Pingala nadi or surya nadi conducts prana shakthi (vital energy).

1.31 PRANAS

There are five pranas other than the main Prana only when this prana is there the other pranas come into existence

Prana vayu is the air that we take in through the nose and mouth

Udhana vayu is the air that we exhale through the nose and mouth

Samana vayu is the air that circulates in the abdomen

Apana vayu is the air that comes out through the genitals and anus

Vyana vayu is the air that circulates through out the body

1.32 YOGIC DIET

Yogic diet or sattvic ahara is very important. The type of polluted food that is available is the root cause for many health problems. A sattvic ahara will help one to have a balanced mind and to think of the higher.

1.33 SHATKARMA

The six cleaning methods are meant for the all development of healthy body and mind.

1. Neti- nasal washing technique
2. Dhouthi - stomach washing technique
3. Basti –colon washing technique
4. Nauli-Isolation of abdominal recti muscles
5. Trataka-Yogic visual gaze
6. Kapalabathi- purificatory yogic breathing

1.34 BANDHAS AND MUDRAS

These are locks and holders of the semi voluntary and involuntary muscles in the body .They decongest the vital organs, improve circulation and nutrition by

pressure manipulation and contribute to general health and emotional stability. A difference is made between the bandhas and mudras on the basis of their use in pranayama. Mudras that are used in pranayama are usually called bandhas because they bind and channelize a particular nervous activity in a particular place or direction.

Jalandhar bandh-The lock at the neck

Uddhiyan bandh- The lock at the navel

Moolbandh- The lock at the anus

Some asanas are called mudras because of their specific effects and channels through which the effects are brought about.

1.35 YOGIC PRACTICES

Maintenance of bodily health depends on two factors namely supply of nourishment and adequate amount and quick removal of waste materials which are produced in the tissues as a result of metabolic activity. The flow of oxygenated blood to all the parts of the body takes place.

1.36 SCHOOLS OF YOGA

RAMAMANI IYENGAR MEMORIAL INSTITUTE FOR YOGA

B.K.S IYENGAR

BIHAR SCHOOL OF YOGA

SWAMI SATYANANDA SARASWATI

1.36.1 YOGIC PRACTICES (Group A)

1.36.1.1 B.K.S IYENGAR

Bellur Krishnamachar Sundararaja Iyengar is very affectionately called **B.K.S.iyengar**, a living legend born on 14th December 1918. As child he was very sick this was the reason for him to go to his guru to learn yoga. He had been trained by Sri Tirumalai Krishnamacharya a strict disciplinarian and a tough teacher who later sent him to spread the knowledge of yoga. His style of yoga had reached the international stage in the 50s. He has penned many books on yoga and philosophy. Light on yoga ,light on pranayama, Yoga sutras of Patanjali. All his research work is based on experience.. He has been conferred with the title **PADMA VIBHUSHAN** by the government of India pn 26th January 2014,

1.36.1.2 RAMAMANI IYENGAR MEMORIAL INSTITUTE FOR YOGA

RAMAMANI IYENGAR MEMORIAL INSTITUTE FOR YOGA in Pune was established on January 19th 1975 which was dedicated to his wife

1.36.1.3 IYENGAR YOGA

B.K.S.Iyengar had read and assimilated the patanjali yoga sutras and experienced all the aspects of the sutras and made it possible for ordinary human beings to follow the sutras. This is the oldest system of personality development formulated by our great rishis in balancing the body, mind and soul and understand oneself and live in harmony with oneself and nature. He has achieved great success in wide range of problems especially musculo-skeletal, emotional and physiological.

Method of teaching

Lot of importance is given to ASANAS -POSTURE is corrected gradually
PRANAYAMA –BREATH CONTROL is introduced. A strong foundation is
given. With the above two points one is energized and relaxed at the same time
and give lot of physical, mental and emotional strength.



**Fig 1 YOGACHARYA SHRI : BELLUR KRISHNAMACHAR
SUNDARARAJ IYENGAR**

1.36.1.4 EFFECT OF CULTURAL ASANAS OR VARIOUS SYSTEMS OF THE BODY

136.1.4.1. SITTING ASANAS

Heart and circulation

The heart is well stretched in asanas where the spine is kept erect. Circulation takes place to full capacity.

Respiratory system

With posture erect the ribs and intercostals muscles are well toned and breathing takes place to full capacity. The dorsal spine is elasticized and this contracts the back of the lungs.

Abdominal and Pelvic organs

Gastric motility is regularized and the blood supply to the mucosa is improved so that digestion is better.

Locomotor system

Sitting asanas give elasticity to the hips, knees, ankles and groin muscles

Nervous system

With posture erect and steady, the mind becomes calm. It is also the reverse a calm and peaceful mind inculcates a stable posture this makes blood flow to the brain easy.

1.36.1.4.2.SITTING FORWARD BENDS

These asanas help the nerves to recuperate, they have specific effect on the nervous system and the flow of energy.

Heart and circulation

The chambers of the heart are massaged. Though the body is being exercised, rest is given to the heart. No strain on the heart to pump blood against gravity. As the spine is placed horizontally blood flows to the extremities easily. High blood pressure is controlled because de-stressing of the pressure regulation centre in the frontal brain takes place. As the cardiac plexus is rested in forward bends one feels energized. The vascular tone of the blood vessel reduces at the same time, certain areas are massaged and certain areas blood flow increases.

Respiratory system

Posterior part of the lungs is stretched and frontal lungs are flexed. The anterior surface of the lungs is compressed and toned up. Due to the restricted space the anterior fibres of the lungs are well exercised by having to learn to breathe in a smaller compartment. As breathing is restful, heart is at rest. The respiratory rate reduces due to increase in sympathetic stress.

Abdominal organs

Salivary glands are smoothed; forward bending compresses the organs and hence improves digestive, absorptive and excretory functions. The vagus nerve is aroused. Kidneys are rinsed with blood regulating blood pressure. Prostate gland is strengthened, pelvic organs function better.

Endocrine system

All endocrine glands are soothed Adrenal glands are profusely innervated with sympathetic nerves and if this system is rested, the glands do not suffer

exhaustion and the cellular contents are preserved and more energy for work. Metabolic activity slows down providing rest to the thyroid gland.

Locomotor system

All the muscles and bones are strengthened. All the posterior intercostals muscles are made very elastic. The inter vertebral joints are stretched and strengthened. As the spine is supple all types of back pain are at bay. The sciatic nerve is decompressed in its course along the leg averting sciatic pain.

Nervous system

The seat of intellectual activity, the frontal brain is quietened and blood flow to the brain is regularized. Rejuvenation occurs faster and mental alertness increases.

1.36.1.4.3. STANDING ASANAS

Locomotor system

Standing poses are designed to give strength and endurance .All joints are kept healthy due to various movements. The periphery and sensory nerves are kept energized and function healthily due to the stretches. Spine is kept very supple so that degeneration does not take place

Heart and circulation

While doing asanas there is little change in pulse rate. Negligible lactic acid is formed during yoga. Energy flows to the body because of stabilization of the cardiac nerves. Cardiac effort tolerance improves in healthy persons and

patients. All vessels are opened and an increase in the diastolic blood flow and oxygen content occurs through this nutrients flow into the cells.

Respiratory system

Elasticity is given to the anterior and posterior inter-costal muscles and every alveolus opens up so that the vital capacity of the lungs does not reduce as one grows up. The directions of the lung are so varied that all parts of the lungs are toned up.

Abdominal organs

Abdominal organs are massaged and the lymphatic circulation is toned up in standing poses due to the internal massage. Absorption of food is better and intestinal peristalsis, gastric mobility, pancreatic secretion are all toned up. Regional blood supply does not reduce as one grows old. Degeneration of organs can be prevented. The nervous plexus are activated and toned up. The corresponding chakras are energized and resistance is built up.

Endocrine system

The poses stimulate the glandular system hence the secretion is healthy and utilized without any wastage.

Reproductive system

Poor posture cause prostrate and uterus problems

Nervous system

They sharpen the neuro-sensory skills of the body. The peripheral nerves are according to yoga, are gnana nadis if used properly. The efferent nerves or karma nadis are also attended to the connections of the peripheral nervous system to the brain through the spinal chord are well toned up.

1.36.1.4.4. INVERTED ASANAS

Cardiovascular system

In the inverted asanas the venous is enhanced. Blood flows to the heart in all three inversions. Cardiac output improves toning, improves without increase in pulse rate or blood pressure. Pressure against the diaphragm exercises the muscles of the diaphragm and the heart. The chambers of the heart are massaged. The myocardium remains healthy. Elasticity of the aorta and the major blood vessels are maintained.

Respiratory system

There is no stagnation in the upper respiratory tract. Oxygenated blood flows into the sinuses. The oral cavity receives fresh blood. Vital capacity of the lungs improves.

Abdominal organs

Inverted asana eliminate excess wind from the colon and stomach

Nervous system

Inverted asana relax the sympathetic drive hence vessel tone and muscle tone are optimized

1.36.1.4.5. TWISTING ASANAS

Heart and circulation

The lateral walls of the heart are squeezed and stretched ensuring excellent cardiac function; the heart is abducted and adducted in the process of massage.

Respiratory system

Vital capacity is maintained due to squeezing. Venous return is healthier and thoracic arterial venous circulation is excellent.

Abdominal organs

Circulation is enhanced and all the organs are rinsed with blood which makes the system healthier.

Endocrine system

Is fully strengthened

Locomotor system

All twisting asanas relieve spinal, hip and groin problems. Circulation is enhanced to the entire body

Nervous system

The entire nervous system is strengthened

1.36.1.4.6. BACK BENDING ASANAS

Heart and circulation

Prevents heart problems .In case the vessels are blocked these asanas maintain free flow in the vessels. More back bends are practiced the stronger the heart becomes. Circulation is speeded up as the sympathetic nerves are stimulated and one feels hot after a single pose.

Respiratory system

Back bends cause extension of the anterior lungs .The vital capacity of the lungs can be kept up through out life. Every part of the lung is made to open up to the fullest capacity. More oxygen intake takes place. When breathing is done in these asanas lot of lung disorders can be set right.

Abdominal organs

The organs in this region are well extended and blood supply is increased. All organs receive good flow of blood and hence the organs work very well.

Endocrine system

The effects of these asanas are immediate. The adrenals are stimulated. Insulin sensivity of the tissues is well preserved as the asanas are intense in nature the metabolic rate of the body is raised during practice.

Locomotor system

Blood is sucked deep into the centre of the spine and prevents any type of deterioration.

Nervous system

Blood gushes to the brain and hence activates the central and autonomous nervous system this in turn strengthens the entire system.

1.36.2 YOGIC PRACTICES (Group B)

1.36.2.1 SWAMI SATYANANDA SARASWATI

SWAMI SATYANANDA SARASWATI



Fig II

Swami Satyananda Saraswati was born in 1923 in Almora. He was under Swami Sivananda as a sanyasin for twelve years from 1943. Swami Satyananda founded the International Yoga Fellowship in 1956 and Bihar School of Yoga in 1963.

1.36.2.2 BIHAR SCHOOL OF YOGA

This school of Yoga on the banks of the Ganges on top of a small hillock in Munger is known as Ganga Darshan .This was founded by Swami Satyananda Saraswati in 1964 to carry out the instructions of his guru Swami Sivananda to spread the ancient wisdom of yoga world wide. Yoga taught in this school is called Satyananda yoga. This school focuses on integrating the head, heart and hands. Intellect, emotion and action take effort to integrate physical, psychological and spiritual dimensions of yoga into practice. With Vedanta as the base, slight modifications are made according to the situation.

1.36.2.3 SURYA NAMASKARA INTRODUCTION

Suryanamaskar is the most important technique in the yogic repertoire. Regular practice makes one physically, mentally and emotionally very strong. Suryanamaskara has asanas, pranayama and meditation all in one sadhana itself. It not only stretches massages tones and stimulates all the muscles, vital organs, and physical parts by alternatively flexing the body backward and forward, it has the depth and completeness of a spiritual practice. It is composed of form, energy and rhythm. The twelve postures represent the twelve Suns, The physical matrix is woven. The asanas generate prana the subtle energy, which activates the psychic body. The steady rhythmic movements reflect the universe such as twenty four

hours of the day, the twelve months of the year and the biorhythm of our own body.

1.36.2.4 HISTORY OF SUN WORSHIP

Sun was the first form of energy. Sun is being worshipped till date. The roots of Indian culture lie in the vedic times. Lord Rama became the king of the solar race. The Suryopanishad states that people who worship the sun as Brahman became powerful. The akshyopanishad identifies surya with Purusha who assumes the form of the sun with thousands of rays, who shines for the good of humanity. From the Sun came the study of astronomy, astrology and many other sciences.

1.36.2.5. PRACTICE OF SURYANAMASKARA

Surya namaskar is the most useful and popular mode of yogic exercises which briefly bestows the benefits of Asanas, pranayama and mudhras altogether. It consists of a series of 12 postures which are performed early in the morning facing the rising sun. Surya namaskar energizes the entire neuro-glandular and neuro muscular system of the body and its regular practice ensures a balanced flow of oxygenated blood and perfect harmony to all the systems of the body, thus invigorating the entire psychosomatic system of the human constitution.

Suryanamaskara when done correctly activates the Chakras. It should be done after chanting the Bija and surya mantra. Bija mantras have no meaning but the very sound activates the entire system. It should be done under proper guidance.

1.36.2.6 ASANAS CHAKRAS BIJA AND SURYA MANTRA

Table 1

No	ASANA	CHAKRA	BIJA AND SURYA MANTRA
1	PRANAMASANA	ANAHATA	OM HRAM MITRAYA NAMAHA
2	HASTHAUTTANASANA	VISHUDDHI	OM HRIM RAVAYE NAMAHA
3	PADAHASTHASANA	SWADISHTAN	OM HROOM SURYAYA NAMAHA
4	ASHWASANCHALASANA	AGNYA	OM HRAIM BHANAVE NAMAHA
5	PARVATASANA	VISHUDDHI	OM HRAUM KHAGAYA NAMAHA
6	ASHTANGASANA	MANIPURA	OM HRAHA PUSHNE NAMAHA
7	BHUJANGASANA	SWADISHTAN	OMHRAMHIRANYAGARBHAYA NAMAHA
8	PARVATASANA	VISHUDDHI	OM HRAUM KHAGAYA NAMAHA
9	ASHWASANCHALASANA	AGNYA	OM HRAIM BHANAVE NAMAHA
10	PADAHASTHASANA	SWADISHTAN	OM HROOM SURYAYA NAMAHA
11	HASTHAUTTANASANA	VISHUDDHI	OM HRIM RAVAYE NAMAHA
12	PRANAMASANA	ANAHATA	OM HRAM MITRAYA NAMAHA

1.36.2.7 MANTRAS AND MEANING

Table II

OM HRAAM MITRAYA NAMAHA	SALUTATIONS TO THE FRIEND OF ALL
OM HRIM RAVAYE NAMAHA	SALUTATIONS TO THE SHINING ONE
OM HROOM SURYAYANAMAHA	SALUTATIONS TO HE WHO INDUCES ACTIVITY
OM HRAIM BHANAVE NAMAHA	SALUTATIONS TO HE WHO ILLUMINATES
OM HRAUM KHAGAYNAMAHA	SALUTATIONS TO HE WHO MOVES QUICKLY IN THE SKY
OM HRAHA PUSHNE NAMAHA	SALUTATIONS TO THE GIVER OF STRENGTH
OMHRAMHIRANYAGARBHAYA NAMAHA	SALUTATIONS TO THE GOLDEN COSMIC SELF
OM HRIM MARICAYE NAMAHA	SALUTATIONS TO THE LORD OF THE DAWN
OM HROOM ADITYAYA NAMAHA	SALUTATIONS TO THE SON OF ADITI THE COSMIC MOTHER
OM HRAIM SAVITRAENAMAHA	SALUTATIONS TO THE STIMULATING POWER OF THE SUN
OM HRAUM ARKAYA NAMAHA	SALUTATIONS TO HE WHO IS FIT TO BE PRAISED
OM HRAHABHASKARAYA NAMAHA	SALUTATIONS TO HE WHO LEADS TO ENLIGHTENMENT

1.36.2.8 EFFECT OF SURYA NAMASKAR ON DEPENDENT VARIABLES

EFFECT OF SURYA NAMASKAR ON PHYSIOLOGICAL VARIABLES

The lungs are expanded to full capacity all the carbon dioxide is flushed out and oxygen is taken in to the fullest capacity Thus respiratory system and circulatory system is strengthened. One would have a healthy pulse rate, blood pressure and vital capacity

EFFECT OF SURYA NAMASKAR ON BIO-CHEMICAL VARIABLES

The circulatory system is strengthened the circulation of lymph which is very important helps in combating infections and strengthens blood sugar levels, cholesterol levels and strengthens the liver.

EFFECT OF SURYANAMASKAR ON PSYCHOLOGICAL VARIABLES

Since all the systems get strengthened the nervous system gets strong and hence one is mentally and emotionally strong.

1.37 PRANAYAMA

Prana is the divine force bestowed on the living being based on the karmas one has done.

Prana means “life- force” Ayama is the “distribution of energy”. Pranayama is not mere breathing but something beyond. Prana moves in the thoracic regions and controls breathing. It absorbs vital atmospheric energy. Prana vayu is the air that we take in through the nose and mouth. Udhana vayu is the air

that we exhale through the nose and mouth. Samana vayu is the air that circulates in the abdomen. Apana vayu is the air that comes out through the genitals and anus. Vyana vayu is the air that circulates through out the body.

Pranayama is an art and has the techniques to make the respiratory organs to move and expand intentionally, rhythmically and intensively. It has long sustained subtle flow of inhalation that is Puraka exhalation rechaka and retention kumbhaka. Puraka stimulates the system rechaka hrows out vitiated air and toxins and kumbhaka distributes the energy throughout the body. The movements include horizontal expansion, vertical ascension and circumferential extension of the lungs and the rib cage. The abundant intake of oxygen strengthens an individual physically mentally and emotionally. There are many types of Pranayama.

1.38 OBJECTIVES OF THE STUDY

1. To find out whether there would be significant differences on selected physiological variables due to varied yogic practices among policemen.
2. To find out whether there would be any significant differences on selected bio-chemical variables due to varied yogic practices among policemen.
3. To find out whether there would be any significant differences on selected psychological variables due to varied yogic practices among policemen.

1.39 REASON FOR THE SELECTION OF THE TOPIC

Policemen contribute to the smooth flow of traffic, maintenance of law and order etc. Without them there would be a lot of law and order problems everywhere. Due to constant stress and irregular duty timings they are physically, mentally and emotionally very unhealthy, thus they need to be trained in yogic practices to strengthen themselves physiologically, biochemically and psychologically.

1.40 REASON FOR THE SELECTION OF INDEPENDENT VARIABLES

Yogic practices are required for the total well being of the Policemen.

1.41 REASON FOR THE SELECTION OF DEPENDENT VARIABLES

Variables like-Pulse Rate, Vital Capacity, Blood pressure, Total Cholesterol, Blood Sugar, Liver function, Job Involvement, Stress, Organizational Climate are very much related to their common problems.

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 and Organizational Climate play a vital role in determining the health of the individuals. For the same Physiological Bio-chemical and Psychological Variables are considered for this study.

1.42 STATEMENT OF THE PROBLEM

The purpose of the study was to find out the effect of varied yogic practices on selected physiological, biochemical and psychological variables among policemen

1.43 HYPOTHESIS

1) It was hypothesized that there would be significant differences on selected physiological, biochemical and psychological variables among policemen due to varied yogic practices than the control group

2) It was hypothesized that there would be significant differences between the experimental groups on selected physiological, biochemical and psychological variables of policemen due to varied yogic practices.

1.44 SIGNIFICANCE OF THE STUDY

1 To find out the exact treatment for the various problems

- a) Physiological Variable.-Pulse Rate, Vital Capacity, Blood pressure,
- b) Bio-chemical Variables.-Total Cholesterol, Blood Sugar, Liver function,
- c) Psychological Variables -Job Involvement , Stress, Organizational Climate

2. To explain the qualities of Physiological Bio-chemical and Psychological Variables

3. To create awareness among the disease prone people in the society about the therapeutic values of Yogic practices

4. This study may be helpful to the future research scholars to select new problems related to the topic

5. The study would be an eye opener not only for the Indian policemen but for the whole world. Yogic practices would be the right answer for all the problems of the policemen.

1.45 DELIMITATIONS

1. The study was delimited to police persons only.
2. The study was delimited to traffic police persons only.
3. Age of the subjects was ranged between 40 to 50 years only.
4. The study was delimited to policemen doing their duty in Chennai only.
5. The study was delimited on males only.
6. The studies were delimited to the following dependant variables only
physiological, bio-chemical and psychological variables.
7. The independent variables were varied yogic practices only.

1.46 LIMITATIONS

Certain factors like life style, body structure, personal habits, medication, family heredity and motivational factors were not taken into consideration for the study.

Certain factors like diet, environmental, climatic conditions and economical background were not taken into consideration. The daily routine of other chores were also considered as limitation.

1.47 MEANING AND DEFINITION OF THE TERMS

1.47.1 HEALTH

Health is a state of complete physical, mental and social wellbeing and not merely an absence of disease or infirmity.

1.47.2 PHYSIOLOGICAL VARIABLE

Variables related to the physiology.

1.47.3 PULSE RATE

The rate of the pulse is observed and measured by tactile or visual means on the outside of an artery and is measured as beats per minute BPM. A healthy pulse rate is 70-80 beats per minute

1.47.4 VITAL CAPACITY

Vital capacity is the maximum amount of air that a person can expel from the lungs after first filling the lungs to the maximum. The slow movement of blood through the capillaries of the lung allow enough time for exchange of gases

1.47.5 BLOOD PRESSURE

Blood pressure is the measurement of pressure of the blood flowing through blood vessels (called arteries) against the vessel walls. Arterial pressure is most commonly measured via a sphygmomanometer, which historically used the

height of a column of mercury to reflect the circulating pressure. Causes for blood pressure are renal failure Hyperthyroidism, Adrenal gland tumors

1.47.6 BIO-CHEMICAL VARIABLE

The study of the chemical substances and vital process occurring in living organisms' biological chemistry and physiological chemistry

1.47.7 CHOLESTEROL

Cholesterol is a waxy steroid metabolite found in the cell membranes and transported in the blood plasma of all animals. It is an essential structural component of mammalian cell membranes, where it is required to establish proper membrane permeability and fluidity.

Very-low-density lipoprotein (VLDL), intermediate-density lipoprotein (IDL), low-density lipoprotein (LDL), and high-density lipoprotein (HDL). T

Total cholesterol is defined as the sum of HDL, LDL, and VLDL. Usually, only the total, HDL, and triglycerides are measured. For cost reasons, the VLDL is usually estimated as one-fifth of the triglycerides and the LDL is estimated using the Friedewald formula (or a variant): estimated LDL = [total cholesterol] – [total HDL] – [estimated VLDL]. The estimated VLDL and LDL have more error when triglycerides are above 200 mg/dL. It is important to fast for at least eight hours before the blood test because the triglyceride level varies significantly with food intake.

1.47.8 BLOOD SUGAR

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 5.8 mM (mmol/L). It is tightly regulated as a part of metabolic homeostasis.

Diabetes is considered as a life long disorder by modern medical science but according to Naturopathy it is a disorder of digestive system which can be controlled by changes in life style, regular practice of yoga and diet regulation.

Diabetes is considered to be a disease of people of sedentary life. In this disease the amount of insulin produced by pancreas is reduced quantitatively, which results in the increase of sugar in the blood and excess sugar eliminates outside through urine.

1.47.9 LIVER FUNCTION TEST

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 hepatic 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. Protien metabolism

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

Albumin 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

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

Unconjugated 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

cholestatic. Increased bilirubin causes Jaundice; Prehepatic increase bilirubin is caused by internal hemorrhage or anemia. Hepatic deficiency in bilirubin is caused by cirrhosis and viral hepatitis. Posthepatic 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

1.47.10 PSYCHOLOGICAL VARIABLES

Energy from the nervous system is the cause for our existence. The most important energy in the subtle layers of our body is nerve energy. The important point of the nervous system is the

1. Central nervous system which is made up of

The brain and

The spinal chord

2. The autonomous nervous system comprising of

The sympathetic

3. The parasympathetic nervous system

4. The peripheral nervous system which has

31 spinal nerves and

12 pairs of cranial nerves

Human brain consumes the highest amount of energy. One among the many aspects it controls is the psychological aspect.

1.47.11 JOB INVOLVEMENT

A Job involvement measure the degrees to which the person identifies with the job participates in it and considers the performance, improvement to oneself.

Once the individual is physically strong then he becomes mentally and emotionally very strong .Then in this condition one would be more efficient because there would be a lot of involvement in what is being done and things would done faster. All asanas have direct or indirect effect on the nervous system which enhances the thinking capacity.

1.47.12 STRESS

Medical science describes stress a specific response of the body to all non specific demands the demand being secretion of ACTH and cortisol (these are two stress induced hormones). Secretions of two more hormones stimulated by stress are Adrenaline and Non adrenaline.

No stress, is as bad as too much stress one should have balanced stress called Eustress

Practical definition when the problem presented by every day life exceeds the resource for coping with them one feels stressed.A physical or psychological stimulus that can produce mental tension or physiological reactions that may lead to illness

1.47.13 ORGANISATIONAL CLIMATE

Is the process of quantifying the culture of an organization, it precedes the notion of organizational culture. It is a set of properties of work environment, perceived directly or indirectly by the employees, that is the major force in influencing employee behavior climate and culture are both important aspects of the overall context, environment or situation.

1.47.14 YOGA

Yoga can be defined as a means of uniting the individual spirit with the universal spirit of God.

1.47.15 ASANA

“Sthiram sukham asanam” when one is firm and breathing is normal in a pose it is called Asana.

1.47.16 SURYA NAMASKAR

Sun salutations that is praying to the Sun God along with asanas pranayama and mantra chanting

1.47.17 PRANAYAMA

Prana means “life- force” Ayama is the “distribution of energy”