

Yoga and Health

□ **Dr. M. L. Gharote**

Introduction

Yoga is a very ancient discipline. It has been considered as a spiritual discipline and recognised as such throughout the ages by all the systems of Indian philosophy. The aim of Yoga has always remained as the spiritual upliftment of man.

How is then Yoga related to health and fitness? How is health and fitness related to spiritual development? To answer these questions we have to acquaint ourselves with the concepts and scope of health and fitness.

Understanding the Concepts

Health is a very wide term. Its extent can be known by the comprehensive definition given by World Health Organisation which runs as follows :

“Health is a state of complete physical, mental, moral and social well-being and not merely the absence of disease and infirmity.” This definition does not necessarily suggest that a healthy person always passes through the life harmoniously and without discord. But the healthy man has a wholeness or oneness of physical life while the unhealthy man is always distracted. And though the healthy man may be torn by temptations and puzzled by the unsolved problems of life, he has not often to fight a battle on two fronts, for health implies some degree of unity. The unhealthy man on the other hand, has always to face bodily discord as well as ethical and intellectual difficulties. He is not at peace with his own body.

Fitness

It implies perfect adaptation to one's particular environment, whatever that is. Fitness can be described in a varied manner. Very often it is considered in terms of physical aspects of living. For example, Karpovich defines physical fitness as “a fitness to perform some specified task requiring muscular effort.” But truly fitness is the capacity of an individual to live and function effectively with his potential, purposefully and zestfully, here and



now : and to meet confidently the problems and crises which are among life's expectations. The term physical fitness indicates specific components like muscular strength, muscular endurance, muscular flexibility, cardio-vascular fitness, co-ordination, etc., any of which we measure to reflect a person's fitness status. The tests which measure physical fitness are more relative than absolute. It is not that a reasonably healthy person cannot improve his physical fitness level.

Relation of Health and Fitness

Health and fitness are relatively inseparable. They have a part and whole relationship. If we consider health as a state of well-being, then fitness contributes to attain this state.

We can conceive of a 'Health and Fitness continuum' on which one extreme point towards left could be considered as "Death" or zero point and the other on the right as "Maximum." The 'Maximum' point is a relative one and not the absolute and one's position at this point at a given moment can be determined by many contributing factors some of which are hereditary and others environmental, and some of the factors are uncontrollable but many of them could be controlled to some extent. It must be recognized that many factors affect a person's position on his health and fitness continuum and that one may never know *exactly* what his position is. An individual's position on the continuum thus represents relative health and fitness.

Yogic Exercises

In order to understand this term, we have to consider the two words, 'Yoga' and 'Exercise' in their mutual relationship.

We may not enter into the various connotations and denotations of the word 'Yoga'. Suffice it to say that the word 'Yoga' has been used for the 'end' as well as for 'means'. This position has been greatly responsible for creating misunderstandings about Yoga. Etymologically 'Yoga' means 'Integration'. The term 'Samatva' of Bhagawadgita conveys the same meaning. Other terms like homeostasis, equilibrium, balance, harmonious development, etc. more or less suggest the same thing. The aim of Yoga itself is integration of personality in all its aspects.

To help the development of such an integration various techniques are employed. These techniques or practices enjoined in Yogic literature and handed down in different traditions also go under the name of Yoga.

The various yogic practices may be classified into (a) Asanas, (b) Pranayamas, (c) Bandhas and Mudras, (d) Kriyas, and (e) Meditation.

(a) *Asanas*—These are certain special patterns of postures that stabilise the mind and body. They aim at establishing proper rhythm in the neuromuscular tonic impulses and improving the general tone of the muscles.

(b) *Pranayamas*—These are the practices in the control of respiratory impulses which form one of the main channels of the flow of autonomic nerve currents.

(c) *Bandhas and Mudras*—These are special features of Hathayoga. These consist of practices where-in one tries to consciously control more and more certain semi-voluntary and involuntary muscles in the body. In these muscles there is an integration of central and autonomic nerve supply. By bringing these muscles more and more under volition one could influence thereby the activity of the autonomic nervous system which functions as a whole. Bandhas and Mudras help to tone up the internal organs, decongest them and stimulate their healthy functioning.

(d) *Kriyas*—These are cleansing processes usually classified into six divisions and therefore they are often called Shatkarmas or Shatkriyas. Each one of these consists of many sub-sections.

(e) *Meditation*—This is a continuum of mental practice involving from initial withdrawal of senses to the complete oblivion of the external environment. Literally, there are innumerable stages and practices which could be included under this head.

For undergoing yogic practices an adequate substratum is formed by resorting to a mode of self-imposed code of conduct technically known as Yamas and Niyamas. They form the very basis of Yoga and is considered to be essential part of Yogic routine, howsoever on a mild scale.

Thus it will be seen that Yoga is not only a *state of being* but also a *process of doing*.

What is 'Exercise' ?

If we resort to a strict definition of "exercise" as repeated movements of particular parts of the human body, it is doubtful whether Yogic practices, described above, could be called exercise, since they are devoid of movements. But if we consider the term 'exercise' as any work that has been undertaken with the sole purpose of keeping the organs and their functions in healthy condition, then we can very fittingly call the yogic practices, mentioned above, as exercises. From this point of view only we have used the term yogic exercises.

Nature of Yogic Exercise

It is necessary to note that the nature of all yogic exercises is psycho-physiological. Some exercises emphasising control of mental processes directly

आसनस्थ तम
आत्मस्थ मन
तम हो सके
आश्वासन जम

are more psychological. other exercises are more physical or physiological. It is the latter part of the yogic exercises that has become more popular and is being extensively used for health and fitness.

Relation of Yogic Exercises with Health and Fitness

The quotatons like 'Nāyamātmā balahinena labhyaḥ' 'Sārīramādyam khalu dharmaśādhanaṁ' from yogic literature indicate that health was considered as a prerequisite for the spiritual pursuit. Yoga looks upon man as a whole consisting of body, mind and spirit. Yoga accepts body-mind relationship. More weightage is given to the spiritual aspect. Yogic concept of health is not merely physically oriented but rather more mentally and spiritually oriented. Arogya, a synonym for health, has been defined as 'an absence of distractions or pulls on the mind' (चित्तविक्षेपकरोगाभावः). The variety of means available in Yoga caters to the needs of young, old, utterly old, diseased or weak. Following are some of the quotations from Yogic texts which emphasize the utility of Yogic exercises in the promotion of fitness of body and mind.

कुर्यात्तदासनं स्थैर्यं आरोग्यं चांगलाघवम् ।

“Kuryāttadāsanam sthairyam ārogyam cāṅgalāghavam”

(The practice of asanas leads to stability, health and lightness of limbs)

आसनेन भवेद् दृढम् ।

“Āsanena bhaved dṛḍham”

(Practice of asanas contributes to strength).

आसनेन रुजो हन्ति ।

“Āsanena rujo hanti”

(Asanas overcome diseases).

ततो द्वन्द्वानभिघातः ।

“Tato dvandvānabhighātaḥ”

(Proficiency in asanas leads to the attainment of the state of lack of dysrhythmias in the neuro-muscular impulses responsible for the tremors of the body and fickleness of the mind).

The physiological effects of Yogic practices are described in the following verse ;

वपुः कृशत्वं वदने प्रसन्नता

नादस्फुटत्वं नयने सुनिर्मले

अरोगता बिन्दुजयोऽग्निदीपनम्

नाडीविशुद्धिर्हृत्सिद्धिः लक्षणम् ॥

अर्चना

“Vapuḥ kṛśatvaṁ vadane prasannatā,
nādasphuṭatvaṁ nayane sunirmale,
arogatā bindujayognidīpanam,
nādiviśuddhir haṭhasiddhilakṣaṇam”

(Slimness of body, lustre on the face, clarity of voice, brightness of eyes, freedom from, disease, control over ejaculation of semen, stimulation of gastric fire and purification of Nadis are the characteristics of success in Hathayoga)

The fundamental understanding in Yoga is that through the variety of means one arrives at the stage of highest integration which is described as Rajayoga in the following verse :

सर्वे हठलयोपाया राजयोगस्य सिद्धये ।

“Sarve haṭhalayopāyā rājayogasya siddhaye”

(All the means and methods of Hatha and Laya are meant for reaching the state of Rajayoga).

Health may be considered in its promotive aspect, curative aspect and preventive aspect. It would be interesting to note the contribution of Yoga in developing these aspects of health on the basis of scientific observations.

Promotion of Health

Promotive aspect deals with the maintenance or improvement of the health and fitness. Although limited research has been done in this area the available evidence indicates promotion of the factors of physical fitness and emotional stability through Yogic training programme.

Yogic procedures have been found best to contribute to flexibility according to de Vries (1967), Smithels and Cameron (1962), Dhanaraj (1974), and Gharote (1973). Other factors of physical fitness are equally favourably influenced as seen from the studies of Gharote (1973, 1976). Minimum muscular fitness as judged by Kraus-Weber tests in the school children was seen improved by yogic training according to the studies of Gharote (1976 b), and Moorthy (1982).

Cardio-vascular efficiency has been found to improve as a result of short-term and long-term yogic training programme among the physically conditioned and unconditioned males (Gharote and Ganguly 1979, Ganguly and Gharote 1974). Residual and delayed effect on the improvement of physical fitness was observed by Gharote (1976 a).

Emotional stability which governs mental health is an important aspect of personality. Various studies reported by Kocher and Pratap (1971 a, and 1972), Kocher (1972 a, b) Palsane and Kocher (1973) showed favourable

आसनस्थ तव
आत्मस्थ मव
तव हो सवे
आश्चर्यस्त जव



results of short term yogic training on mental health through the influence of autonomic nervous system and endocrine system. The study of Gharote (1971) on school children evaluating the psycho-physiological effects of short term yogic training on the working of autonomic nervous system using a sophisticated and elaborate battery of Wenger's Autonomic Balance, brought evidence about the utility of yogic exercises towards improved emotional stability.

On the basis of some of the scientific investigations with yogic training programme mentioned above, it would be clear that yogic exercises can play important role in promoting health and fitness.

Cure of Disease

The curative aspect deals with the treatment of diseases through yogic procedures. Today Yoga has become more popular because of its therapeutic effects. There is a growing tendency among the masses to take the help of yogic exercises for overcoming certain disorders. Although therapeutically yoga has not reached a stage to throw light in the psycho-physiological mechanisms involved in the treatment and to cover within its compass a long list of disorders, it would be interesting to consider the available evidence in this area.

Circulatory Disorders

One of the accepted claims of yogic type of relaxation is for the reduction of hypertension. Benson and his co-workers have shown from a number of controlled studies lowering effect of Transcendental Meditation on Hypertension (Benson et al. 1973, 1974, Benson H. 1977). In 1969 Datey et al. after investigating the effects of Shavasana for six months on the hypertensive patients reported decrease in blood pressure levels to normal values in one group; another group showed lower blood pressure and a decreased need for medication while the third group who had already normal blood pressure level because of medication decreased their need of medication significantly from 33% to 100%. The patients also reported overcoming usual symptoms of headache, giddiness, irritability and insomnia and decreased chest pain and breathlessness on exertion (Datey et al. 1969). Another investigator who dealt with meditation therapy on hypertensives is Chandra Patel. She conducted series of investigations and got amazing results. (Patel 1973). Stone and de Leo (1976) used a technique involving breath awareness and examined the effects not only on lowering of blood pressure but also suggested biochemical aspects responsible for the enhanced blood pressure in the form of increase in dopamine-beta-hydroxylase and that breath awareness reduces the quantity of dopamine-beta-hydroxylase in the blood which accompanied lowering of the blood pressure.

Inverted positions like Shirshasana and Sarvangasana have been found successful to treat pre-menstrual tension, migraine by influencing, through gravity effects, the lungs, brain, heart, intestines and uterus and the movement of body fluids such as blood, lymph and cerebrospinal fluid.

Pranayama or yogic breathing practices also have favourable effects on the cardio-vascular system. Breathing against resistance in pranayama helps to dilate blood vessels of the brain, skin and coronary system. Inverted positions along with the practice of pranayama done under supervision can be useful in the treatment of angina pectoris (heart pain) because they reduce the work load of the heart. Tulpule (1973, 1980) has shown the utility of yogic exercises in the management and rehabilitation of the patients of heart diseases.

Respiratory Disorders

Equally important is the contribution of Yogic exercises towards respiratory troubles. One of the troublesome respiratory disorders is Asthma. The reports of Asthma research projects conducted in Kaivalyadhama, Lonavla (Bhole 1975, 1965) and studies by other investigators (Rajalakshmi 1980; Nagaratna and Nagendra 1985; Goyeche et al. 1982; Erskin and Schannel, 1979; Honsberger and Wilson 1973; Murthy et al. 1983) show efficacy of Yoga in the management of bronchial asthma.

Metabolic Disorders

Among the metabolic disorders frequently encountered disease is diabetes. This disease has also been subjected to yogic treatments and several investigators have reported favourable influence of the treatment in reducing the blood sugar levels (Divekar, 1978; Koshti et al. 1971, 1972; Rugmini and Sinha 1975; Singh et al. 1982; Udupa et al. 1975; Varandani et al. 1973; Rao 1976; Shembekar et al. 1980; Tulpule et al. 1977; Karambeilkar 1976).

Obesity is another condition which can be managed to a great extent through the yogic treatment. Reports by Gharote (1977), Divekar (1978) show beneficial effects of Yogic treatment on obesity.

Gastrointestinal Disorders

Among these are included conditions related to digestion and elimination. Some clinical reports and experiences of individuals suggest how yogic exercises can help to alleviate conditions of hyperacidity, dyspepsia, indigestion, gas troubles and piles.

Musculo-skeletal Disorders

The practice of Yogic exercises undoubtedly helps to preserve and

आसमस्थ तम
आत्मस्थ मन
तब हो सके
आश्चर्य जन

improve movement in joints and suppleness in people suffering from various types of chronic arthritis.

Postural defects may be improved in the early stages by the practice of suitable asanas.

Relief is obtained from many forms of aches and spasms in the muscles. Many asanas can be made use of to treat the conditions arising out of surgical operations and to hasten convalescence.

Prevention of Diseases :

Personal experiences of the practitioners of yogic exercises suggest the utility of yogic exercises in building up proper resistance not to succumb to the long sustaining disorders and show the ability to recover soon. In the yoga survey report based on the questionnaires filled in by 2672 yoga practitioners in England, Dr. Robin Monro showed that "the majority of people responding to the questionnaire felt that yoga had improved their sense of well-being, energy level and capacity for work. At least half of those felt that Yoga had reduced their (a) susceptibility to colds and flu, (b) consumption of general medicines, and (c) consumption of tranquillisers or sedatives. Large proportions felt that Yoga had reduced their number of days of work and consultations with doctors (Monro 1984).

Conclusion :

Thus on the basis of the above discussion it will be clear that Yogic exercises have a wide scope in the life of an individual not only to remove the ailments but also to maintain good positive health of the body and mind. Selected routine of Yogic exercises can certainly lead to a happy and successful healthy life.

REFERENCES

1. Benson, H. et al. 1973. Decreased systolic blood pressure in hypertensive subjects who practiced meditation. J. Clin. Invest; 52 : 8.
2. Benson, H. et al. 1974. Decreased blood-pressure in borderline hypertensive subjects who practiced meditation. J. Chron. Dis; 27 : 163-169.
3. Benson, H. 1977. Systemic hypertension and relaxation response. N. Engl. J. Med; 196 : 9 : 513.
4. Bhole, M. V. 1967. Treatment of Bronchial asthma by Yogic methods—A Report, Yoga Mimamsa, 9 ; 3 : 31-41.
5. Bhole, M. V. 1915. Rationale of treatments and rehabilitation of asthmatics by Yogic Method. Collected Papers on Yoga, Kaivalyadhama, Lonavla. pp. 105-114.

6. Datey, K. K., S. N. Deshmukh, C. P. Dalvi, and S. L. Vinekar, 1969. Shavasana—A Yogic Exercise in the management of hypertension. *Angiology* 10 : 325-333.
7. Dhanaraj, V. Hubert, 1974. The effects of Yoga and 5 BX Fitness Plan on selected physiological parameters, Ph. D. Thesis, The University of Alberta, Edmonton, Canada.
8. Divekar, M. V. et al. 1979. Efficacy of Yoga Therapy in Diabetes Mellitus and Obesity. *Jour. Diab. Assoc. Ind.* Vol. 18 : 75.
9. Erskin J. and Schonnel M. 1979. Relaxation Therapy in Bronchial Asthma. *J. Psychosom. Res.* 23 : 131-139.
10. Ganguly, S. K. and Gharote, M. L. 1974. Cardiovascular efficiency before and after Yogic training, *Yoga Mimamsa*, 17 : 7 : 89-97.
11. Gharote, M. L., 1971. Psychophysiological study of short-term Yogic training on the adolescent high school boys, *Yoga Mimamsa*, 14 : 1 & 2 : 02-99.
12. Gharote, M. L. 1973. Effect of yogic training on Physical Fitness. *Yoga Mimamsa*, 15 : 4 : 31-35.
13. Gharote, M. L. 1976 a. Physical Fitness in relation to the practice of selected yogic exercises, *Yoga Mimamsa*, 18 : 14 : 14-23.
14. Gharote, M. L. 1976 b. effect of Yoga exercises on failures on the Kraus-Weber Tests. *Perceptual and Motor Skills*, 43 : 654.
15. Gharote, M. L. 1977. An evaluation of the effects of Yogic treatment on obesity—A report. *Yoga Mimamsa*, 19 : 1 : 13-37.
16. Gharote, M. L. and Ganguly, S. K. 1979. Effects of a nine-week Yogic training programme on some aspects of physical fitness of physically conditioned young males. *Ind. Jour. Med. Sci.* 33 : 10 : 258-263.
17. Gharote, M. L. 1982. Yoga Therapy—Its scope and limitation. *Jour. Res. Edn. Ind. Med.* 1 : 2 : 37-42.
18. Goyeche, J. R. M., Abo Y. and Ikemi Y. 1982. The Yoga perspective—Part II. Yoga Therapy in the treatment of asthma. *J. Asthma* 19 : 189-201.
19. Honsberger, R. and Wilson A. F. 1973. Transcendental meditation in treating asthma. *Respiratory Therapy*, 3 : 79-81,
20. Karambelkar, P. V. 1976. Care by a Diabetic through Yogic techniques. *Yoga Mimamsa*, 18 : 3 : & 4 : 79-88.
21. Kocher, H. C. 1972 a. Yoga Practices as a variable in Neuroticism, Anxiety and Hostility. *Yoga Mimamsa*, 15 : 2 : 37-47.

आसमस्थ तम
आत्मस्थ मन
तब हो सके
आश्चर्य जन

22. Kocher, H. C. 1972 b. The Mirror Tracing test as a measure of steadiness among Yoga practitioners. *Yoga Mimamsa* 15 : 3 ; 13-22.
23. Kocher, H. C., and Vijayendra Pratap. 1971 a. A Free-association study before and after yogic practices. *Yoga Mimamsa* Vol. 14 : 1 & 2 : 41-56.
24. Kocher, H. C. and Vijayendra Pratap, 1972. Anxiety level and yogic practices. *Yoga Mimamsa* Vol. 15 : 1 : 11-15.
25. Koshti et al. 1971. Electrophoretic pattern of serum proteins in Diabetes Mellitus as influenced by Yogic exercises. *Jour. Mysore Med. Assoc.* 36 : 64. July-Sept.
26. Kuvalayananda, Swami and Vinekar, S. L. 1963. *Yogic Therapy—Its basic principles and methods.* New Delhi, Central Health Education Bureau. 96 pp.
27. Mehmud U. 1981. *Yoga and Diabetes*, Paper read at the Second World Congress on Diabetes. Bombay.
28. Monro Robin. 1984. *Yoga Survey Report*, *Yoga Today*, 9 : 5-6: Sept-Oct.
29. Moorthy, A. M. 1982. Influence of selected Yogic exercises on minimum muscular fitness of the elementary school children. *SNIPES Journal.* 5 : 3 : 21.
30. Murthy K. R. J. et al. 1983. Effect of Pranayama (rechaka, puraka and kumbhaka) on bronchial asthma—an open study. *Lung India*, 5 : 187-191.
31. Nagarathna R. and Nagendra, H. R. 1985. Yoga for bronchial asthma : a controlled study, *British Medical Journal* 291 : 1077-1079.
32. Palsane, M. N. and H. C. Kocher, 1973. The effects of short-term yogic training programme on immediate memory of school boys. *Research bulletin* 3 : 1 ; 33-43.
33. Patel, Chandra 1975. Yoga and Biofeedback in the management of hypertension. *J. Psychosom. Res.* 19 : 355-360.
34. Rajalakshmi, 1980. *Yoga Therapy in Diabetes, Bronchial Asthma, and Hypertension.* Mimeograph of the Indian Institute of Yoga and Allied Sciences, Tirupati (India).
35. Rao, Venkat B. 1976. Report on the Diabetic Research, *Prakriti*, p. 33. Dec.
36. Rugmini, P. S. and Sinha R. N. 1975. The Effect of Yoga Therapy in Diabetes Mellitus. *Proc. Seminar on Yoga, Science and Man.* CCRIMH, New Delhi, pp. 175-181.
37. Shembekar, A. G. et al. 1980. Yogic exercises in the management of diabetes mellitus. *Jour. Diab. Assoc. Ind.* 20 : 167.

38. Smithells Philip A. and Cameron Peter E. 1962. Principles of Evaluation in Physical Education, New York ; Harper & Brothers, Publishers.
39. Stone, R. A. and De Leo. 1976. Psychotherapeutic control of hypertension, New Engl. Jour. Med. 294 : 80-84.
40. Tulpule, T. H., Shantilal J., Shah H. M. and H. K. Havelivala. 1973. Yogic exercises in the management of Ischaemic heart disease. Indian Heart Journal, 23 : 4 : 259-264.
41. Tulpule, T. H. 1977. Yoga and Diabetes Mellitus. Madhumeha, 17.
42. Tulpule, T. H. and Tulpule, A. T. 1980. Yoga—a method of relaxation for rehabilitation after myocardial infarction. Ind. Heart Jour. 32 ; 1.
43. Varandani, N. et al. 1973. Yoga in Diabetes Mellitus. Paper read at First Scientific Seminar of the CCRIMH, New Delhi.

—Assistant Director of Research and
Principal, G. S. College of Yoga and Cultural Synthesis,
Kaivalyadham, Lonavla-410 403.

