

EFFECT OF YOGA AND DIET IN NON COMMUNICABLE DISEASE**Dr. Supriti Patnaik***

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ABSTRACT

Communicable diseases have been controlled to a considerable extent in the developed countries. On the other hand, there is a trend towards increase in prevalence of noncommunicable diseases due to ecological imbalance and changing lifestyle of man. Chronic non-communicable diseases are increasing among the adult population. Cardiovascular diseases and cancer are at present the leading causes of death. Life style and behavioural patterns like physical inactivity, consumption of tobacco and alcohol are changing rapidly. Life expectancy increased, because of advanced medical care in most of the countries. Complications of cardiovascular disease, diabetes mellitus are decreasing the Quality of life. Noncommunicable diseases (NCDs) and injuries are replacing communicable diseases as the most common causes of disability, morbidity and premature mortality. The leading causes are cancer,

diabetes, hypertension, cardiovascular disease, stroke, chronic obstructive pulmonary disease, chronic kidney disease, mental disorders and trauma. Healthy life style and balanced diet are essential for prevention of these conditions. *Yoga* based lifestyle is very helpful for maintaining physical as well as mental health.

KEYWORDS: Physical activity, Balanced diet. *Yoga*.

INTRODUCTION

A total 55.4 million deaths occurred worldwide during 2019, of these 41 million were due to NCDs, principally cardiovascular disease. India is experiencing a rapid health transition with a rising burden of NCDs causing significant morbidity and mortality, both in urban and rural

population, with considerable loss in potentially productive years (age 35-64 years) of life. NCDs are estimated to account for about 63 per cent of all deaths. India shares more than two thirds of the total deaths due to NCDs. Four types of NCDs, Cardiovascular disease, cancer, chronic respiratory disease and diabetes make the largest contribution to morbidity and mortality due to NCDs. Four behavioural risk factors are responsible for significant proportions of the disease, tobacco use, unhealthy diet, physical activity and harmful use of alcohol. Major metabolic risk factors are obesity, raised blood pressure, raised blood glucose and raised total cholesterol level.^[1]

For prevention of NCDs, the above risk factors should be controlled. Healthy lifestyle that includes healthy diet, adequate physical activity and behavioural modification should adopted.

HEALTHY EATING HABIT

- Inclusion of non-starchy fresh vegetables and green leafy vegetables in every meal. At least 30 grams of fruits in every meal.
- Consuming at least 50% of cereals and other grains as whole grains (minimally polished) for adequate nutrients and fibres.
- All cereal (or millet) based diet are accompanied with adequate pulses or beans for good quality protein and fibres.
- Consuming adequate quantity of nuts, oilseeds, fatty fish and restricting cooking oils to 25 to 30 grams per day.
- Restricting meal frequency to two to three times a day.
- Avoiding ultra processed food (UPFs) and foods high in fat, sugar and salts (HFSS).
- Avoiding sugar or restricting to 20 to 25 grams per day.
- Non snacking in between and consuming healthy beverages.^[2]

Include fresh vegetables and fruits, which are storehouse of micronutrients, fresh fruits are nutritionally superior to freshly prepared fruit juices. Fruits and vegetables are sources of phytonutrients and fibre which are of vital health significance. They are also source of prebiotics and thus help in improving intestinal flora and gut health. They enhance immune function and reduce the risk of infections. They help in prevention of micronutrient malnutrition and chronic diseases like HTN, CHD, Stroke, DM, Cancer. Fibres reduce absorption of cholesterol.

Microgreens - Young, tender plants of herbs, vegetables or even greens, with just one or two sets of leaves. Young plants that are harvested within a week or ten days after sowing the seeds. Rich sources of nutrients such as amino acids, fatty acids, micronutrients and various bioactive compounds and phytochemicals. High in aliphatic glycosylates, polyphenols and serve as dietary carrier to provide naturally occurring antioxidant capacity. Many of vegetables and fruits have low calories, except vegetables like potato, Colocasia, topioca, yam, sweet potato and fruits like banana, avocado, pear, mahua (buttercup). Daily intake quantity of green leafy vegetables is 100gms, other vegetable 250 gm, roots and tubers 50 gm, fresh fruits 100 gm. Fresh, locally available and seasonal fruits and vegetables should be preferred. Root vegetables like carrots, beetroot, radish, Knol Khol and turnip should be preferred to tubers like potato, yam, Colocasia and cassava.^[3]

High intake of saturated fat and trans-fat should be avoided. To enhance nutrition and flavour, oil seeds and nut paste can be used in place of extracted refined oils/fats.^[4]

TYPES OF PHYSICAL ACTIVITIES AND HEALTH BENEFITS

A combination of physical activities is recommended for overall health and improved cardio-respiratory and muscular fitness i.e. Endurance, Strength, Balance, Flexibility.

Aerobic/Endurance activity - Increase the heart rate and breathing resulting in greater improvement in the heart and lung function. It is called cardio activity or endurance activity, Brisk walking, running, jogging, swimming, bicycling.

Muscle and bone strengthening activity - Resistance training or weightlifting or weight loading or weight bearing, Lifting heavy objects/weights, carrying a child, working with elastic bands, pushups, crunches, squats, jumping ropes etc. Improve bone and muscle strength.

Balance activity - Improve flexibility, agility, gait. Examples are walking backwards, dancing, stretching and martial art etc.

Flexibility/Yoga - Includes all the above three categories of activities along with flexibility and breathing exercises as well as physical and mental relaxation exercises.^[5]

Yoga is the science of life and the art of living. It is the common-sense answer to overall physical and mental fitness. Basically, *Yoga* is a system of physical and mental self-improvement.

EFFECT OF *YOGA* ON NON COMMUNICABLE DISEASE

As *Yoga* is a life science that perfectly covers all aspects of human life, it directly associates the human body with the human mind and marks out a designed pathway of progress toward shaping a healthy body and pure mind. The more advanced stages of *Yoga* cannot be attained without this purification of body and mind. And a healthy body and a pure mind are indispensable requirements for *Yoga*. Just as all the chords of all the musical instrument need to be adjusted perfectly for a melodious tune to play, so too the body and the mind must be coordinated/attuned with each other for the union of the Individual Soul with the Supreme Soul. The means for attaining union of the body with the mind is another stated goal of *Yoga*.^[6]

Yoga therapy is inclined towards increasing the inherent resistance power of the human body and mind. The various Yogic processes help in developing a state of balance of the body and mind in any circumstances. This implies that *Yoga* focuses on the internal state of body and mind rather than changing the outward circumstances. The Yogic processes that create their impressions on the body have to be practiced in depth while treating the disease. In the initial stage, only those processes that will wash out the effects of the outer circumstances should be practiced. After that, the processes that will improve the internal functioning of the body should be focused on. This does not complete the therapeutic treatment. Creating a physical base that will withstand recurrence of the disease is necessary. The processes that will help this need to be practiced so that even if external circumstances become unfavourable, the improved resistance power will withstand them and the recurrence of the disease will not take place. This is the reason why Yogic Therapy proves more effective than any other therapy. Yogic Therapy has been formulated keeping in mind all these points discussed above.^[7]

***YOGA* PRACTICES FOR HEART DISEASE**

Asanas; Tadagasana, Vajrasana, Pavanmuktasana, Ardha Chakrasana, Bhujangasana, Dhunurasana, Katichakrasana, Tadasana, Tiryak Tadasana, Shavasana.

Pranayama: Anulom Vilom, Sheetal Purak followed by Bhramari Rechak, Ujjayi Pranayama without kumbhak.

Yoga Nidra: Specially designed for Heart Disease or for Stress Relief.

Om chanting.

Contraindications: *Surya Namaskar, Sarvangasana, Halasana, Shirshasana* & its variations. Fast breathing, Right nostril breathing, *Bhastrika Pranayama*, Any *Pranayama* with *Kumbhak. Vaman dhouti, Shankha Prakshalana (Laghoo / Purna.)*^[8]

YOGA PRACTICES FOR HYPERTENSION

Asanas; Tadagasana, Vajrasana, Pavanmuktasana, Ardha Chakrasana, Anantasana, Bhujangasana, Shalabhasana, Dhunurasana, Ardhamatsyendrasana (1 minute each side) *Tadasana, Tiryak Tadasana, Katichakrasana, Trikonasana, Veerasana, Shavasana.*

Cleansing Practices: *Uddiyana Bandha, Jalaneti.*

Pranayama: Anulom Vilom, Ujjayi Pranayama without *kumbhak* , *Sheetali Purak* followed by *Bhramari Rechak.*

Yoga Nidra for stress relief.

Contraindications: *Sarvangasana, Halasana, Shirshasana* & its variations. Fast breathing, Right nostril breathing. *Bhastrika.* Any *Pranayama* with *Kumbhak. Vaman dhouti, Shankha Prakshalana (Laghoo / Poorna.)*^[9]

YOGA PRACTICES FOR DIABETES MELLITUS

Newly diagnosed have reduced blood sugar levels to normal level and insulin dependent diabetes have been able to considerably reduce their insulin consumption.

The *yoga* practices are thought to act in two distinct ways. Firstly it seems that cells of Islets of Langerhans, the secretary portion of pancreas which has been prematurely exhausted due to over secretion of insulin, are rejuvenated. This would mean that insulin production is stimulated. Secondly *yoga* seems to bring about a more general resensitization of muscle and fat tissues to the body's own insulin.

Asana – Pawanamuktasana, Suryanamaskara, Vajrasana, Sarvangasna, Halasana, Matsyasana, Pascimottanasana, Ardhamatsyendrasana, Mayurasana, Bhujangasana, Gomukhasana

Pranayama – Bhramari, Nadisodhna

Shatkarma – Neti

Relaxation – Abdominal breathing in *Shavashana, Yoga nidra*^[10]

YOGA PRACTICES FOR OBESITY

Almost all cases of obesity will return to normal body weight and an inspired life if a daily *Yoga* program is followed with determination. The problem is that the obese individuals

needs inspiration and will power. Asanas build up vitality slowly but surely. They rebalance the nervous and endocrine pathways gradually and effortlessly. *Pawanamuktasana*, *Suryanamaskara* (especially useful in balancing the endocrine glands and spinal nerves. *Bhramari* and *Nadi Sodhana pranayama* are specially use full in awakening diminished vitality. Excessive pranayama should be avoided, which stimulate appetite. *Bhastrika* helps speed up the metabolism and reduce fat.

Neti and *Kunjala kriya* should be plasticized daily.

Yoga nidra is a powerful means of overhauling a faulty and uninspired lifestyle^[11]

Fasting is not recommended for obese people as it is extremely difficult to maintain a proper fasting program, free from the inevitable rebound reflex of overeating. Rather the daily diet should be made wholesome with simple food, regular meal times and no snacks in between.^[12]

Yoga practices can only be started after the consultation with medical consultant of the patient. It is important that diabetics undertake yogic therapy in conjunction with qualified medical practitioner.

CONCLUSION

Non communicable diseases, also known as lifestyle diseases, because all most all diseases caused due to faulty lifestyle like physical inactivity, high calorie diet, unhealthy behaviour like smoking and alcohol consumption, mental stress. Complete treatment of these diseases are very difficult and patient is dependent in medication for lifetime. There are many disabilities occur, if the treatment is not started in early stage and maintained properly. Disability of the people decrease their quality of life and also economic loss for family as well as the community. Therefore, prevention of these diseases are more essential. Proper diet, healthy lifestyle, *Yoga* practice can prevent these conditions as well as limit the disabilities caused by the disease.

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