



# PROBABLE ROLE OF EXERCISE IN PREVENTING LIFESTYLE DISORDERS: A SURVEY STUDY

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**Abstract:** In order to maintain the health and strength of a healthy and strong individual, proper diet, fresh air, sunshine, etc. play a very important role. Exercise is one among these where the body becomes strong and resistant when it is done in proper manner and in adequate quantity. In today's era it has been observed that around 75% of the diseases are driven by Life style factors like diet and lack or improper exercise. People can be free from lifestyle ailments if they follow daily regimens mentioned in ancient classics. Proper Exercise should be practiced in such a manner as to bring all the muscles into action. The overall metabolism of the body can be improved by a regular practice of proper exercises. In order to assess overall health condition of the willing people, a survey was conducted through google form by post graduate Scholars from Department of Swasthavritta, Institute of Teaching and Research in Ayurveda (ITRA), Jamnagar among general public related to lifestyle and the voluntarily participating persons were asked a set of questions related to their day today activities like diet, sleep, exercise, somatic and psychosomatic disorders etc. to be answered mandatorily. Total 472 responses were recorded in a stipulated time. This survey covered exercise pattern, form and duration of exercises etc. dimensions. It was observed that due to lack of proper exercise, there was higher prevalence of disorders like Obesity, Hypertension, Diabetes, Stress, Anxiety, Depression, Sleep disturbances etc. Out of 472, 84 individuals never practiced any exercise and among these, 64 individuals were suffering from Life Style Disorders. Despite of 387 individuals practicing exercise, 223 were suffering from Life Style Disorders. The full paper describes the details of the study and its relevance with the role of proper exercise in preventing Life Style Disorders.

**Key words:** Exercise, Dinacharya, Vyayama, Survey study, Lifestyle disorders

## I. INTRODUCTION

According to Ayurveda, Exercise is predominant of Vayu(air) element which is one among the Penta element in Naturopathy, produces lightness, strength to work, stability, endurance towards distress and mitigation of Dosha (especially kapha), and stimulation of Agni (digestive power) is engendered by physical exercise. It is also a treatment in the conditions like Ajeerna(indigestion), Staulya(Obesity), Prameha(Diabetes) etc. Regular exercise helps the body to maintain digestive fire which helps to digest the incompatible food easily.<sup>1</sup> According to Ayurvedic science. Dinacharya (Daily regimens) procedures are mentioned to maintain health which starts from waking up early in the morning. To maintain the oral hygiene Danta Dhavana, Kavala and Gandusha, to avoid skin ailments Snana, Abhyanga, Udvartana, to maintain physical fitness Vyayama is mentioned. Body movements according to one's own liking/desire which are meant for producing fitness and strength to the body is called Vyayama<sup>2</sup>. A person who is seeking good health should perform physical exercise every day only half of his/her capacity<sup>3</sup>

Exercise is physical activity that is planned, structured, and repetitive for the purpose of conditioning the body. Exercise consists of cardiovascular conditioning, strength and resistance training, and flexibility<sup>4</sup>. There are 3 forms<sup>5</sup> of exercises which are practiced in the current era.

1. **AEROBIC:** Aerobic exercise aims to improve how the body uses oxygen. Most aerobic exercise takes place at average levels of intensity over longer periods. An aerobic exercise session involves warming up, exercising for at least 20 minutes, and then cooling down. Aerobic exercise mostly uses large muscle groups. Examples: jogging, swimming, cycling, brisk walking etc.
2. **ANEROBIC:** Anaerobic exercise does not use oxygen for energy. People use this type of exercise to build power, strength, and muscle mass. These exercises are high-intensity activities that should last no longer than around 2 minutes. Examples: heavy weight lifting, squats, high intensity interval training.
3. **AGILITY TRAINING:** Agility training aims to improve a person's ability to maintain control while speeding up, slowing down, and changing direction. People who take part in sports that heavily rely on positioning, coordination, speed, and balance need to engage in agility training regularly.

Regular proper physical activity helps to improve overall health, maintaining fitness also improves muscle strength and boosts the endurance. Exercise delivers oxygen and nutrients to your tissues and helps cardiovascular system work more efficiently. And when heart and lung health improve, there will be more energy to tackle daily chores. Being active has been shown to have many health benefits both physically and mentally. Exercise helps control weight, lower blood pressure, lower harmful LDL cholesterol and triglycerides, raise healthy HDL cholesterol, strengthen muscles and bones, reduce anxiety, and improve general well-being. A sedentary lifestyle and excess caloric consumption are the primary causes of many Life style disorders.

## AIMS AND OBJECTIVES

- To assess the overall health condition of the individuals.
- To assess the awareness about following the ideal lifestyle as stated in the classics
- To assess the inclusion of Vyayama (exercise) in day-to-day life.
- To establish a relationship between exercise and life style disorders.

### Data and Sources of Data

This is the survey type of research on life style of Healthy Individuals conducted by the Department of Swasthavritta, ITRA (Institute of Teaching and Research in Ayurveda), INI, Jamnagar on the occasion of World Health Day- 2022 through online mode via Google forms.

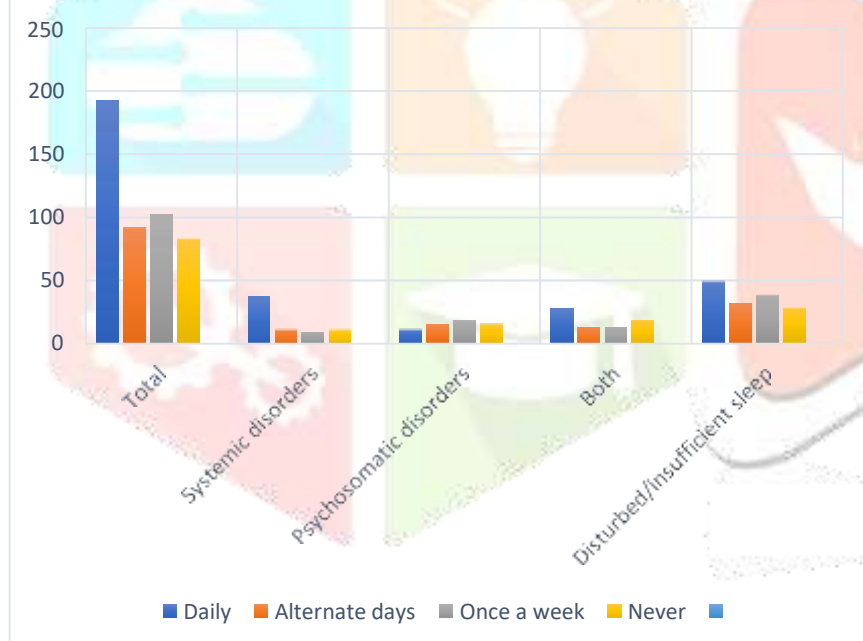
## RESEARCH METHODOLOGY

This voluntary survey study incorporated a set of 28 Questions pertaining to Personal information, Occupation, nature of work, Bowel habits, practice of Dinacharya procedures like Ushah Pana (Drinking water on empty stomach in early morning), Danta dhavana (Brushing teeth), Jihwa Nirlekhana (Tongue scraping), Anjana (Application of medicated collyrium), Nasya (Instilling medicated oil in nostrils), Dhoomapana (medicated smoke inhalation), Kavala Gandusha (Gargling), Abhyanga – Udvartana (Massage and Body scrubbing), frequency, form, and duration of practicing exercise and also Pranayama and Meditation, Food Habits, Sleep Habits, Systemic and Psychosomatic Disorders etc. to be answered mandatorily. Forms were uploaded on World Health Day 2022 in related WhatsApp groups and Facebook Page of Department of Swasthavritta, ITRA (Institute of Teaching and Research in Ayurveda), INI, Jamnagar. (<https://www.facebook.com/997029847067228/posts/4319948361442010/>) The time limit set for registering the responses was within 10 days from the date of publication of the form online.

## RESULTS AND DISCUSSION

Out of 472 responses 387 individuals practice exercise either daily/alternate days/once a week yet 223 individuals are suffering from Life Style Disorders this indicates that the proper method of Exercise is not being followed by majority of the population and 84 individuals who never exercise at all, 64 individuals among them are suffering from Lifestyle Disorders. The detailed data is as follows;

	Total	No. of Individuals with Systemic disorders	No. of Individuals with Psychosomatic disorders	Both	No. of Individuals with Disturbed/insufficient sleep
Daily	193	37	12	28	50
Alternate days	92	12	15	13	32
Once a week	102	9	18	13	40
Never	84	12	16	18	29



While Practising Exercise the Duration and form of Exercise is important. It should be Decided only after assessing one's own capacity and strength. Walking is most Practiced form of Exercise followed by Yogasanas and less than 30 minutes is practiced by majority of the population.

## Duration of Exercise

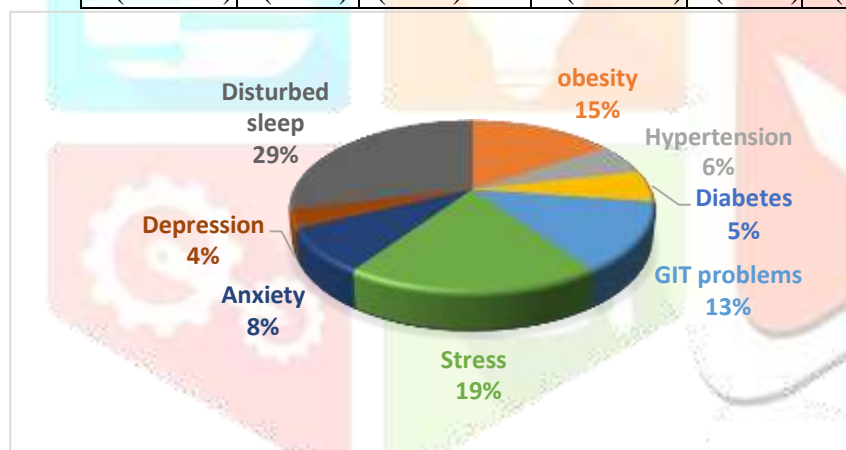
41.7%	<30min
35.7%	30-60min
8.5%	>60min

## Form of Exercise

Yogasanas	48.2%
Walking	70.1%
Jogging	10.6%
Sports	8.9%
Gyming	7.5%
Cycling	1.2%

Among them the chances of suffering from Life Style Disorders among the individuals who never practice Exercise is significant. The different health conditions and the data related the same is as follows:

Obesity	Diabetes	Hypertension	Stress	Anxiety	Depression	GIT disturbances	Disturbed sleep
13(15.47%)	4(4.9%)	5(5.9%)	16(19.04%)	7(8.3%)	3(3.57%)	11(13.09%)	24(28.57%)



Even though practicing Exercise daily/alternate days/ Once a week, it is found that some of the individuals are still suffering from Life Style Disorders. This indicates that the proper method of exercise is not being followed, most of them are doing over exercise or less amount of exercise. Mere practicing of exercise doesn't yield required effect unless it is practiced in a proper method.



## DISCUSSION

Even though knowing about the importance of following ideal lifestyle many of the people fail to have that commitment of practicing them regularly. It is necessary for the current generation to adapt daily regimens which are mentioned in classical texts in order to maintain wellbeing.

The survey conducted made obvious that how exercise plays a vital role in maintaining health. In order to get fruitful effect from the exercise there is a need of practicing it in a proper manner for specific time duration based on one's capacity to tolerate the exhaustion. Choosing right form of exercise according to one's own body constitution is necessary to avoid serious consequences induced from the exercise.

Now a days various forms of exercises are indicated for stress and anxiety management as it lowers the concentration cortisol which is released during the acute phase of stress as a response. Persistent increase in cortisol level in the body leads to weight gain later turns to type 2 diabetes and hypertension. Exercise (especially aerobic exercises) stimulates the brain to release endorphins which serve as natural painkiller helps in relieving stress and has greater calming effect. An advantage of incorporating exercise into a stress management program compared with other stress management techniques is the well documented physical and physiological health benefits of exercise.<sup>6</sup>

Obesity represents a significant public health concern. It is an excessive fat accumulation in adipose tissues and is identified by a Body Mass Index of  $30 \text{ kg/m}^2$  and above. Individuals in the BMI range of  $25\text{-}30 \text{ kg/m}^2$  are categorized as overweight while a BMI of  $40 \text{ kg/m}^2$  and above is regarded as morbid obesity. Increasing energy expenditure can help to reduce excess deposition of adipose tissue and this is achieved by Exercise<sup>7</sup>.

Sufficient sleep is essential for optimum health. Moderate aerobic exercises increase the amount of slow wave sleep which refers the deep sleep where the brain and body have a chance to rejuvenate. Insufficient or disturbed sleep can even lead to anxiety, depression and may interfere with the ones ability to fall asleep. Exercise can mitigate illness through the release of endorphins which improves the sleep quality.<sup>8</sup>

Exercise has both acute and enduring effects on GIT. It is a good metabolism booster, burns fat and convert food into energy. Regular physical activity stimulates the gut and increases the intestinal activity hence the digestive problems are prevented. It is also beneficial for those with IBS (Irritable Bowel Syndrome) and helps in maintaining gut flora which has important role in protecting immune system.<sup>9</sup>

Diabetes is a metabolic disease that causes high blood sugar. The hormone insulin which is secreted from the pancreas helps to maintain blood sugar level. The adaptation and maintenance of physical activity are critical foci for blood glucose management and boosts body's sensitivity to insulin as its action in muscle and liver can be modified by acute bouts of exercise. Aerobic exercise decreases blood glucose levels if performed during postprandial periods with the usual insulin dose administered at the meal before exercise.<sup>10</sup>

These are the problems which we can be resolved without treatment or minimal invasion by regular practice of exercise. It may be any form like Aerobics, Gymming, Walking, Jogging, Asanas

According to classical texts Excessive exercise can lead to some serious conditions like Shrama (tiredness), Klama(exhaustion), Kshaya(depletion of body tissues), Trishna(excessive thirst),Raktapitta (bleeding from different parts of the body), Pratamaka(darkness in front of eyes), Kasa(cough), Jwara(fever), Chhardi(vomiting)<sup>11</sup>. It may also lead to injuries, exhaustion, constant fatigue, Irritability. Muscle sore etc

Duration and Form of Exercise is important to decide while practicing Exercise. In classics it is mentioned that Perspiration, increase in respiratory rate, feeling of lightness of body, and congestion in cardiac (heart) region and such other organs of the body are signs of reaching threshold of exerciseand one should stop the exercise<sup>12</sup>

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