

**EFFECT OF YOGA AND NATUROPATHY PRACTICES ON SELECTED PSYCHOLOGICAL VARIABLES AMONG THE DIABETES PATIENTS****K.L.S. Geetha<sup>1</sup>, Dr.A.M.Moorthy<sup>2</sup>**

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**Abstract**

“Health is a state of complete harmony of the body, mind and spirit. When one is free from physical disabilities and mental distractions, the gates of the soul open.” ~B.K.S. Iyengar. Every day, India sees the addition of 5,000 new cases of diabetes to its current diabetic population of 65 million people. The Purpose of the present investigation was to find out the effect of yoga and naturopathy practices on psychological variables (stress and aggression) among the diabetics people. To achieve this purpose, 45 diabetics’ patients were selected randomly as subjects from various clinics of Nagercoil, Tamilnadu. And their age between 40 to 50 years. They were divided into three equal groups namely yoga practices group naturopathy practices group and control group. The yoga practices group and naturopathy groups did practices for all eight weeks. The pre and post test were taken for all subjects before and after the training respectively. The data pertaining to the variables in this were examined by using dependent T- test and analysis of covariance (ANCOVA).The eight weeks of yoga and naturopathy practices on psychological variables improved the among the diabetics patients.

**Key words:** Aggression, diabetes, naturopathy, stress, yoga**Introduction**

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 and final liberation, that people have been using for thousands of years. Sugar and simple carbohydrates put stress on the adrenal glands due by rapidly shifting blood sugar levels. By switching to vegetables, fruits and proteins, and high fibre carbohydrates in the form of whole grains, blood sugar remains

more stable, providing less strain on the adrenal glands. To maintain proper adrenal function, it is imperative to control your blood sugar levels. An excessive ratio of carbohydrates to protein results in excess secretion of insulin, which often leads to intervals of hypoglycemia (low blood sugar).Stress tolerance goes down when you're hungry. In an attempt to normalize blood sugar the body stimulates the adrenals to secrete increased levels of cortisol and adrenalin. This contributes to chronic cortisol depletion and consequently, adrenal

exhaustion. In order to stabilize blood sugar, you must maintain a balance between two hormones, glucagon and insulin, which are produced by the pancreas. Protein in the diet induces the production of glucagon. Carbohydrates in the diet induce the production of insulin. Insulin promotes fat production. When excess carbohydrates are eaten in the form of sugars, potatoes and pasta, the body produces large quantities of insulin and little glucagon. When insulin is high and glucagon is low, the adrenals are called upon to produce excess cortisol as a back-up response to help raise blood sugar. This occurs at the expense of the adrenal glands, contributing to adrenal exhaustion.

### **The Physical Response to Stress**

Stress is a condition that manifests when the individual's adaptive capacity to a given situation has been overwhelmed. Any change that requires adaptive behavior could produce stress. The adrenal glands sit on top of the kidneys and are the main gland responsible for the stress response. The adrenals produce hormones that help to balance your blood sugar, which helps your body manage energy needs. When blood sugar drops, the adrenals release hormones that cause the blood sugar to rise, and increases energy. The adrenals also release glucose for energy that we need when under stress. This "fight or flight" response harkens back to days when we needed to run away from the dinosaurs, but is now a response to everyday stressors, such as traffic jams, arguments, and work pressures. Unfortunately, the excess adrenalin produced cannot be used up by running away from the boss and can therefore have serious consequences.

Chronic stress takes a toll on the adrenal glands. Eventually the adrenal glands cannot produce sufficient hormones. This is because, like everything in the body, adrenal hormones require nutrients to make them. If our diet is insufficient, then we simply run

out of adrenal hormones. This is termed, in naturopathic circles, "adrenal exhaustion". This is something that calls for a visit to a naturopath. Conventional endocrinologists and tests diagnose only extreme dysfunction in the adrenals, such as the potentially fatal condition, Addison's disease, where the adrenals essentially shut down. Only nutrition can treat adrenal exhaustion. Yoga arose in the age of the Vedas and Upanishads. It is India's oldest scientific, perfect spiritual discipline. Yoga is a method of training the mind and developing its power of subtle perceptions so that man may discover for himself the spiritual truths on which religion, beliefs and moral values finally rest. It is realization of our hidden powers. Swami Shivananda said, "He who radiates good, divine thoughts does immense good unto himself and to the world also". Yoga is science of life, it offers us simple, easy remedies and techniques and methods of health and hygiene to assure physical and mental fitness with a minimum of time, effort and expense. Naturopathy believes that the root cause of all illness or disease is the accumulation of waste and toxins in the body which results from overeating, drugs medicines. The majority of people due to sedentary lifestyle and lack of exercise these surplus wastes and clogs the digestive system with impurities or toxins. Naturopathy while reducing the food intake or fast therapy, the organs excretory organs such as the bowels, kidneys, skin and lungs are allowed to purge, the impurities and toxins from the system. Thus, fasting therapy accelerates the process of purification and cleansing of the system and effective method of cure.

### **Methodology**

The investigator selected 45 diabetics randomly from various clinics of Nagercoil and their age was between 40 to 50 years. Selected subjects were divided into three groups. The experimental group I

underwent yoga practices like asana, pranayama, relaxation and meditation and group II naturopathy practices like sun bath, mudpack and hip bath weekly five days i.e. Monday to Friday, between 7.00 A.M to 8.00 A.M. for a period of eight weeks, and group III not practicing yoga and naturopathy. Stress and aggression were selected as criterion variables all the subjects were tested at prior and immediately after the training period on selected dependent variable. The collected data was analyzed statistically by using analysis covariance (ANCOVA) to find out the significant differences if any between the groups at

before and immediately after the training period on selected dependent variable separately. In all cases, .05 level of confidence was fixed to test the significance.

### Analysis of data

#### Results on stress

The data on the effect of Yoga practices and Naturopathy practices on psychological variable, stress was collected through pre and post test scores and subjected to statistical treatment using ANCOVA. Table I shows the results obtained.

**Table I**  
**Computation of analysis of covariance of stress**  
(Scores in numbers)

Means	Yoga Group	Naturopathy Group	Control Group	Source of Squares	Sum of squares	DF	Mean squares	Obtained
Pre test	53.73	53.47	52.53	Between	5.0	2	2.49	0.07
				Within	1579.6	42	37.61	
Post test	61.73	62.40	53.73	Between	912.2	2	456.09	21.04*
				Within	910.3	42	21.67	
Adjusted	62.63	61.79	52.25	Between	994.9	2	497.44	79.83*
				within	255.5	41	6.23	
Mean Diff	8.00	8.93	1.20					

\* Significant at 0.05 level of confidence.

Table I shows the obtained pre test means and post test means and the adjusted means for stress. The obtained F value on the scores of pre test means 0.07 was less than the required F value required 3.22, to be significant at 0.05 level This proved that the random assignment of the subjects were successful and their scores in stress before the training were equal and there was no significant differences. The obtained F value on the scores of post test means 21.04 was greater than the required F value 3.22, which

proved that the interventional programmes, yoga practices and naturopathy practices were significantly influences stress of the subjects. Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 79.83 was greater than the required value of 3.22 and hence it was accepted that the yoga practices and naturopathy practices significantly influenced stress of the subjects. Since

significant differences were recorded, the results were subjects to post hoc analysis

using Scheffe's Confidence Interval test. The results were presented in Table II

**Table II**  
**Scheffe's Confidence Interval Test Scores on Stress**  
(Scores in numbers)

Yoga	Naturopathy	Control	Mean Difference	Required C.I.
62.63	61.79		0.84	2.29
62.63		52.25	10.38*	
	61.79	52.25	9.54*	

\* Significant at 0.05 level of confidence.

Table II shows that there was a significant difference between Naturopathy group and control and Yoga practices and control group. And there was no significant mean difference between Yoga practices and Naturopathy groups

The data on the effect of Yoga practices and Naturopathy on psychological variable, aggression was collected through pre and post test scores and subjected to statistical treatment using ANCOVA. Table III shows the results

### Results aggression

**Table III**  
**Computation of analysis of covariance of aggression**  
(Scores in numbers)

Means	Yoga Groups	Naturopathy Groups	Control Groups	Source of variance	Sum of squares	DF	Mean squares	Obtained
Pre test	91.93	91.80	90.60	Between Within	4.6 3841.7	2 42	2.29 91.47	0.03
Post Test	84.60	82.73	91.93	Between Within	506.8 3236.1	2 42	253.42 77.05	3.29*
Adjusted	82.59	84.34	91.00	Between Within	589.3 161.2	2 42	294.63 3.93	74.92*
Mean Diff	-7.33	-9.07	1.33					

\* Significant at 0.05 level of confidence.

Table F-ratio at 0.05 level of confidence for 2 and 42 (df) = 3.22, and 41 (df) 3.23 Table III shows the obtained pre test means and post test means and the adjusted means for aggression. The obtained F value on the scores of pre test means 0.03

was less than the required F value required 3.22, to be significant at 0.05 level This proved that the random assignment of the subjects were successful and their scores in aggression before the training were equal and there was no significant differences. The

obtained F value on the scores of post test means 3.29 was greater than the required F value 3.22, which proved that the interventional programmes, Yoga practices and Naturopathy practices were significantly, influences aggression of the subjects. Taking into consideration of the pre test and post test mean adjusted post test means were determined and analysis of covariance was done and the obtained F

value 74.92 was greater than the required value of 3.22 and hence it was accepted that the yoga practices and naturopathy practices significantly influenced aggression of the subjects. Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table IV

**Table IV**  
**Scheff's Confidence Interval Test Scores on Aggression**

MEANS			Mean Difference	Required .CI
Yoga practices	Naturopathy	Control	1.75	1.82
82.59		91.00	8.40*	
	84.34	91.00	6.66*	

\* Significant at 0.05 level of confidence.

Table IV shows that there was significant differences between naturopathy group and control group and yoga practices and control group. And there was no significant mean difference between yoga practices and naturopathy groups.

#### **Discussion of findings**

The results on psychological variable stress was presented in Table I proved that there was significant differences among the post means and adjusted means between yoga practices, naturopathy and control group. The obtained F values of 21.04 for post test and 79.83 for adjusted means were greater than the required F value of 3.22 to be significant at 0.05 level. Since there was significant effect because of the treatment, the investigator subjected the adjusted means for post hoc analysis of the means through Scheffe's Confidence Interval test.

The obtained results were presented in Table II and the results proved that yoga practices significantly influences the diabetics patients Stress, comparing to the control group. Comparing between yoga practices and naturopathy practices, there was no significant differences were recorded Hence, it was proved that though practices and naturopathy were significantly changed the stress, there was no significant difference between practices and naturopathy practices. The results on psychological variable aggression was presented in Table III proved that there was significant differences among the post means and adjusted means between yoga practices, naturopathy practices and control group. The obtained F values of 3.29 for post test and 74.92 for adjusted means were greater than the required F value of 3.22 to be significant at 0.05 level. Since there was significant effect because of the

treatment, the investigator subjected the adjusted means for post hoc analysis of the means through Scheffe's Confidence Interval test. The obtained results were presented in Table IV and the results proved that yoga practices significantly influences the diabetics patients aggression, comparing to the control group. Comparing between yoga practices and naturopathy practices, there was no significant differences were recorded hence, it was proved that through yoga practices and naturopathy practices were significantly changed the aggression, there was no significant difference between yoga practices and naturopathy practices.

### Conclusions

Yoga and naturopathy treatment for Diabetes Mellitus is a combination of cleansing routines, yoga and pranayama practice, meditation, fasting therapy, hydrotherapy, mud therapy, and chromotherapy, which staves off the excess toxin matter to activate the pancreas and other digestive organs. According to naturopathic principles, all diabetic symptoms are due to the abnormal functions of the digestive, absorptive, assimilative and eliminatory organs. Therefore naturopathic treatment aims to decongest and activate the digestive organs, including pancreas. Stress tolerance goes down when you're hungry. In an attempt to normalize blood sugar the body stimulates the adrenals to secrete increased levels of cortisol and adrenalin. This contributes to chronic cortisol depletion and consequently, adrenal exhaustion. In order to stabilize blood sugar, you must maintain a balance between two hormones, glucagon and insulin, which are produced by the pancreas. Protein in the diet induces the production of glucagon. Carbohydrates in the diet induce the production of insulin. Insulin promotes fat production. When excess carbohydrates are eaten in the form of sugars, potatoes and pasta, the body produces large quantities of insulin and little

glucagon. When insulin is high and glucagon is low, the adrenals are called upon to produce excess cortisol as a back-up response to help raise blood sugar. This occurs at the expense of the adrenal glands, contributing to adrenal exhaustion.

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