

## Influence of Selected Circuit Training Programme on Stress in Diabetic Men

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### Abstract:

The purpose of the study was to analyze the Influence of selected circuit training programme on stress in diabetic men. For these purpose 30 men type-II diabetic patients were selected randomly from ta. Darwha. Their age ranged between 40-50 years. All the type-II diabetic men subjects were assigned to experimental group-A which undertook for yogic practices, experimental group-B which underwent exercise circuit and control group-C each group consists of 10 subjects. Control group (group-C) was not given any training. Perceived Stress Scale (PSS; Cohen et al., 1983) was used to assess stress. The data obtained analyzed by analysis of covariance (ANCOVA) to assess the significant differences among the groups between the pre-test and post-test on stress in diabetic men. The adjusted post-test mean differences among the experimental groups were tested and Scheffe's post hoc test was used to determine the significance of the paired means differences. The stress level of the experimental groups had significantly decreased while comparing with that of the control group.

**Key Words:** Yogic asana, exercise circuit and Stress

### Introduction

Increased standard of living has brought great comfort to human being. Within a short period of about 50 years, the modern medicine with its scientific approach and research has been able to unravel many anomalies, which were out of reach for human being over decades. Along with this development, the modern man becoming submerged by a world full of concentration with large number of problems and recurrent crisis. Surrounded by these distortions of values, the corruption of mind, uninterrupted social problems. Drug consumption and abuses, stress, mental and physical ailment are amplified in high rate (Davidson and Neal, 1990). These problems will not be solved through new technological developments. The cause of diabetes mellitus is unknown, but heredity and diet are believed to play a role in its development. Diabetes results when the pancreas produces insufficient amounts of insulin to meet the body's needs. It can also result when the pancreas produces insulin, but the cells are unable to use it efficiently, that is the cells have insulin resistance. Type-I diabetes results from the body's failure to produce insulin, and currently requires the person to inject insulin. Type-II diabetes results from insulin resistance, a disorder in which cells fail to use insulin properly. The modern man suffers more psychological stress than the physical stress. Human

is trying to live a successful life as per the expectation and norms of the society and is continually challenged with rapidly accumulating stresses. In this fast moving social set up with high standard of living and innumerable changes the individual have no time to look back and think about what is happening to his body and mind. This accumulated stress for prolonged period leads him to the so called induced disorders, like heart attacks, high Blood pressure, Diabetes, Asthma, Back pain, most important obesity & psychological complications. A change in attitude and life style is necessary to help the individual to come out of these health risks and to cope with the future.

Traditional yoga philosophy is regarded as the root cause of ailment of a stress. Through the various therapeutic techniques of yoga one can pluck out this cause and can provide health and harmony disease, stress levels, lack or inadequate sleep is caused due to fast paced life style (Davidson and Neal, 1990). People get so engrossed in coming up in life that they forget their health. There is a popular saying, "if wealth is lost something is lost, but if health is lost everything is lost". It is the apt time that people start concentrating on their health and well-being (Strukic, 1981). Regular physical activity can improve your mood and the way you feel about yourself. Exercise is likely to reduce depression and anxiety and is a great help to better manage stress. The Psychological benefits of yoga are Mood improvement and subjective well-being. Yoga

decreases anxiety and Depression, hostility, improves concentration, memory, attention, Learning efficiency, Self-actualization, Social skills and Social skills well-being.

**Methodology**

The purpose of the study was to analyze the Influence of selected circuit training programme on stress in diabetic men. For these purpose thirtymen Type-II diabetic patients were selected randomly from Darwha. Their age ranged between 40-50 years. All the Type-II diabetic men subjects were assigned to experimental group-A, experimental group-B and control group-C each group consists of 10 subjects. The experimental group-A underwent yogic practices from 6.00 am to 6.45 am and experimental group-B underwent exercise circuit from 7.00 am to 7.45 am for the duration of forty five minutes from Monday to Friday (5 days/week) for 12 week. The intensity of the training increased progressively once in four weeks from 50-60% with the duration of 20-25 min in the first week to 70-80% with the duration of 30-35 min in eight week. No training was given to the control group. Five to ten minute warm up and cooling down period were also included. The yogic practice and exercise circuit for the selected experimental groups are presented in the following order.

Group	Type of training
<b>Experimental group-A</b>	1. Loosening exercises 2. Suryanamaskar 3. Asana 4. Pranayama 5. Meditation 6. Relaxation.
<b>Experimental group-B</b>	1. Warm up exercises 2. Brisk walking 3. Simple Stretch 4. Relaxation
<b>Control group-C</b>	No training

Perceived Stress Scale (Cohen et al., 1983) was used to assess stress. The pre and post test data on the selected criterion variables were collected by administering the test as per the standardized procedures before after the 12 weeks of the training programme. The data obtained were analysed by

analysis of covariance (ANCOVA) to assess the significant differences among the groups between the pre-test and post-test on stress in diabetic men. The adjusted post-test mean differences among the experimental groups were tested and since the adjusted post test result was significant the Scheffe's post hoc test was used to determine the significance of the paired means differences. The level of significant was fixed at 0.05.

**Results:**

**TABLE 1: Computation of Analysis of Covariance of Stress**

	Exp . group-A	Exp . group-B	Control Group-C	SV	Sum of Squares	df	Mean Squares	F-value
<i>Pretest mean</i>	25.93	26.06	25.46	Between	17.69	2	8.844	0.03
				Within	23789.87	27	273.45	
<i>Posttest mean</i>	19.88	21.648	26.565	Between	2177.48	2	1088.74	5.05*
				Within	18744.85	27	215.46	
<i>Adjusted mean</i>	19.79	21.44	26.86	Between	2486.55	2	1243.27	23.31*
				Within	1513.65	27	17.66	

\*Significant at 0.05 level, table value for df 2 and 27 is 3.3 and 2 and 26 is 3.3

The post-test means showed differences due to twelve weeks of yogic practices and exercise circuit and mean values recorded were 19.88, 21.648 and 26.565 respectively. The post test scores analysis proved that there was a significant difference between the groups as the obtained F value of 5.05 was greater than the required F value of 3.3. This proved that the differences between the post-test mean on the subjects were significant. Taking into consideration of the pre and post test scores among the groups, adjusted mean scores were calculated and subjected to statistical analysis. The obtained F value of 23.31 was greater than the required F value of 3.3. This proved that there was a significant

difference among the means due to twelve weeks of yogic practices & exercise circuit on the psychological variable of stress. Since significant improvements were recorded, the results were subjected to post hoc analysis using Schaffer's confidence interval test.

The results were presented in table-II

**TABLE – II :Scheffe's Post Hoc Test Analysis of Stress**

<b>Exp. group-A</b>	<b>19.79</b>	<b>19.79</b>	
<b>Exp. group-B</b>	21.44		21.44
<b>Control Group-C</b>		26.86	26.86
<b>Mean difference</b>	<b>1.65</b>	<b>7.07</b>	<b>5.42</b>
<b>Required C.I</b>	<b>1.55*</b>		

\*confidence coefficient of 95 percent & df 2

The mean difference between yogic practices groups and exercise circuit groups was 1.65, which was greater than the required Scheffe's confidential interval of 1.55. Hence, the difference between the experimental groups was significant. However, the difference between yogic practices group and control group was 7.07, while it was 5.42 for exercise circuit group and control group. In all the cases the mean differences were greater than the required value of 1.55. Hence, the differences were proved to be significant at 0.05 level.

**Discussion And Conclusion:**

The post hoc analysis through Scheffe's confidence test proved that due to twelve weeks training, the yogic practices group and exercise circuit group there was significant decrease in stress than control group and the differences were significant at 0.05 level. Although both the experimental groups significantly decreased stress, a yogic practice was better than exercise circuit group. It was concluded that stress could be reduced significantly due to yogic practices and exercise circuit. The results of the study are in agreement with several reports. There was a significant improvement in the stress scores in the experimental group proving the effect of yoga to reduce the stress level to make an individual healthy.

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