

## EFFECT OF YOGASANAS AND PRANAYAMA ON LIPID PROFILES AND BLOOD SUGAR LEVEL OF SENIOR CITIZEN

Davender Singh Yadav<sup>1</sup>, Ph. D. & Satnam Singh<sup>2</sup>, Ph. D.

<sup>1</sup>Sr. Lecturer, DIETs, (SCERT), Delhi

<sup>2</sup>Sr. Lecturer, DIETs, (SCERT), Delhi

### Abstract

The present study was taken during the year 2016-17 at Hisar (Haryana) with an objective to assess the effect of Yoga and Pranayama on lipid profiles and the blood sugar level of Senior Citizen. The study concluded that three month training of Yoga therapy had positive significant effect on the total cholesterol, low density lipo protein (LDL), high density lipo protein (HDL) and sugar level of Senior Citizen. The Yogic exercises and Pranayam reduces the level of total cholesterol, LDL and sugar in the blood and also enhanced the level of HDL in blood.

**Keywords:** Lipid profile, total cholesterol, low density lipo protein (LDL), high density lipo protein (HDL) and sugar level.



[Scholarly Research Journal's](http://www.srjis.com) is licensed Based on a work at [www.srjis.com](http://www.srjis.com)

Rising costs of prescribed drugs and increasing population are making alternative medicine look increasingly more attractive. Yet there are few rigorous, scientific studies examining the safety and effectiveness of alternative and complementary therapies in fighting specific symptoms or diseases. Yoga is a promising and most appealing therapy in the recent times. It is increasingly gaining popularity as a means of exercise and fitness training. A 2003 survey commissioned by Yoga Journal found that 16.5 million Americans are exercising Yoga (Harris Interactive Service Bureau Survey). It is observed that the Indian philosophy of living (i.e. Yoga life) has gained a great momentum among the people of well developed nations but caution is needed because Yoga has now become a "new fitness craze". However it needs to be recognized more by health care professionals for a complement to conventional medical care rather than just a trendy leisure activity. Over the last 10 year research studies have shown that the Yogic exercise had improved strength, flexibility, cardiovascular endurance and many more abilities in our body.

The physiological benefits of participating in Yoga activity have been proven unequivocal. However it is believed that the psychological benefits of participation in Yoga

activity such as decreased depression and anxiety or improved mood are more likely to be experienced when the physical activity such as Yoga is enjoyable and there is a feeling of flow.

Yoga posture improves the body's alignment, resulting in increased circulation, nervous system stimulation and increased energy. Yoga allows participants to wake up and be fully aware within and not disconnected from their bodies. Yoga practice encourages clarification and expression of one's awareness and consciousness quieting the voice of the inner critic. The intention of Yoga is to maximize one's potential through the realization of one's inner goodness and inner goodness of others as well. True Yoga embraces the interconnectedness of the spirit and body. Yoga is said to be enjoyable physical activity which invites all the people of different age groups to become stronger, more mindful and more intuitive, enhances our emotional spiritual and mental health.

Galantino (2004), through a pilot program, examined that ability of Yoga in alleviating low back pain, the practice improved balance and flexibility and decreased disability for people with chronic back problems.

Narendran (2005) suggested that integrated approach to Yoga during the pregnancy is safe. It improves birth weight, decreases pre-term labour and decreases IUGR either in isolation as associated with PIH, with no increased complications. Recent research had proved that Yoga not only improves the physical variables but also tone up the internal organs of the body.

After the age of 60 it is not possible to do the rigorous exercises. Even our eating habits and quality of food leads to the problem of heart and diabetes in the old age. So in this age Yoga is considered to be the only the way where the continued movement is allowed for a sufficient heart rate training effect of low to moderate intensity.

Keeping in view the claims and propagation of the importance of Yoga, the present study was carried out to determine the effects of Yogaasanas and Paranyama on lipid profiles and sugar level in the blood of Senior Citizens.

Following objectives were framed for the study:

1. To study whether there was any effect of Yoga therapy on total cholesterol of Senior Citizen.
2. To study whether there was any effect of Yoga therapy on low density lipo protein (LDL) and high density lipo protein (HDL) in the blood of Senior Citizen.
3. To study effect of Yoga therapy on blood sugar level of Senior Citizens.

## MATERIAL AND METHODS

The methods of study were split over following heads:

### a) Sampling

In the present study, purposive sampling plan was used for selecting the samples. The present investigation was conducted on a total 25 male in the age group of 50 to 60 years.

### b) Collection of the data

The selected sample went through training for three months under the direct supervision of Yoga experts and the researchers. The intervention consisted of Dhanurasana, Bhujagasana, Chakrasana, Paschimotansana, Shalabhasana, Puran Matsyandrasana, Shavasan asanas and Nadishodhana, Sithali, Sitakari, Brahmari, Bhastrika and Kapalbhathi, Paranyama. These yogasanas and pranayama rituals were performed early in the morning from 5.00 to 6.30 a.m. daily

The selected variables (Total cholesterol low density lipo protein and high density lipo protein) of lipid profile and sugar level were determined in fasting blood samples, taken on the first and last day of the training.

After getting the reports of both the samples the data was subjected to statistical analysis.

### c) Statistical procedures

Keeping in view the objectives as well as design of the study, the appropriate statistical technique such as t-test, S.D. and mean were used to analyze the data.

## RESULTS AND DISCUSSION

After having a thorough thought on the scores of data in Table 1 it was denied that t-ratio (2.65) is significant at 0.01 level. The fasting sugar is indirectly related to the diabetes so the lower mean value of the post test shows that the Yoga intervention had a significant effect on sugar level of the Senior Citizen. Singh (2004) and Damodaran (2002) had also supported same the findings in their study.

**Table 1: Mean S.D. and t-ratio of pre test and post test on fasting sugar level.**

	N	Mean (m)	Standard deviation (S.D.)	t-ratio
Pre test	25	146.36	37.01	2.65**
Post test	25	122.20	26.96	

\*\*significant at 0.01 level

Table 2 shows that the t-ratio (3.31) to be significant at 0.01 level. The scores of total cholesterol level were indirectly related to the health of an individual.

**Table 2: Mean S.D. and t-ratio of pre test and post test on total cholesterol.**

Test	N	Mean (m)	Standard deviation (S.D.)	t-ratio
Pre test	25	199.28	35.69	3.31**
Post test	25	170.00	25.92	

\*\*significant at 0.01 level

Therefore the lower mean value of the post test (170) show that the Yogic exercise and paranayam had a significant effect on the total cholesterol of the Senior Citizen. Yogendra (2004) and Bijlani (2005) in their study also find that with the help of Yoga one can reduce his total cholesterol in the blood.

**Table 3: Mean S.D. and t-ratio of pre test and post test on HDL.**

	N	Mean (m)	Standard deviation (S.D.)	t-ratio
Pre test	25	49.28	6.03	3.40**
Post test	25	54.52	4.8	

\*\*significant at 0.01 level

Table 3 indicates that the t-ratio (3.40) is significant at 0.01 levels. The scores of HDL is directly related to the health of individual, so the higher mean value (54.52) of the post test shows that the Yoga therapy had a positive significant effect on HDL of the Senior Citizen. Bijlani (2005) supported the findings of present study.

**Table 4: Mean S.D. and t-ratio of pre test and post test on LDL.**

	N	Mean (m)	Standard deviation (S.D.)	t-ratio
Pre test	25	146.48	27.94	3.99**
Post test	25	119.08	19.91	

\*\*significant at 0.01 level.

Table 4 shows that the t-ratio (3.99) was significant at 0.01 levels. The scores of LDL is indirectly related to the health of an individual so the lower mean value (119.08) of post test as compare to mean value (146.48) of pre test shows that the Yogic exercise and Paranayam helps in reducing the level of LDL, whose presence is harmful to the body. Studies from Manchanda (2000), Yogendra (2004) and Bijlani (2005) had also supported the present study.

## Conclusion:

Based on the present study it was concluded that the Yoga training that was given had a positive effect on reducing the level of blood sugar (glucose), blood cholesterol and LDL and was found to be beneficial in enhancing the HDL level in the blood of Senior Citizen. Thus, if followed correctly and scientifically examined, yoga can be a promising intervention in improving the pathology of definite conditions among senior citizens. The selected physiological variables play an important role since the senior citizens are more prone to complications arising due to the high blood sugar level, high LDL and lesser HDL level related disorders.

## References

- Bijlani, R. L., et al. (2005). *A brief but comprehensive lifestyle education program based on Yoga reduces risk factors for cardiovascular disease and diabetes mellitus. J. Altern Complement Med. 11* (2): 267-74.
- Damodaran, A. et al. (2002). *Therapeutic potential of Yoga practices in modifying cardiovascular risk profile in middle aged men and women. J. Assoc. Physicians India 50*: 633-40.
- Galantino, M. L. et al. (2004). *The impact of modified Hath Yoga on chronic low back pain: A pilot study. Alternative therapies in Health and Medicine 10* (2): 56-9.
- Malhotra, V., et al. (2002). *Study of Yoga asana in assessment of pulmonary function in NIDDM patients. Indian J. Physical Pharmacol 46* (1): 313-20.
- Manchanda, S. C., et al. (2000). *Retardation of coronary atherosclerosis with Yoga lifestyle intervention. The Journal of the Association of Physicians India 48*: 687-94.
- Narendran, S. et al. (2005). *Effect of Yoga on pregnancy outcome. J. Altern. Complement Med. 11* (2): 237-44.
- Singh, S., et al. (2004). *Role of Yoga in modifying certain cardiovascular functions in type 2 diabetic patients. J. Assoc. Physicians 52*: 203-6.
- Yogendra, J. et al. (2004). *Beneficial effects of Yoga lifestyle on reversibility of ischaemic heart disease: causing heart project of International Board of Yoga. Journal Assoc. Physicians India 52*: 283-9.