

Effect of comprehensive yogic practices on lipid profile of urban population

Ganesh Prasad*, Dr. Ishwar Bhardwaj**

*Research Scholar, Department of Human Consciousness and Yogic Science, Gurukul Kangri Vishwavidyalaya, Haridwar, India

**Prof. & Head, Department of Human Consciousness and Yogic Science, Gurukul Kangri Vishwavidyalaya, Haridwar, India

Abstract

The purpose of present study was to investigate the impact of comprehensive yogic practices on Lipid Profile of Urban Population. This study has been conducted in Delhi NCR. 50 participants were selected through purposive sampling from Navadha Yoga Health Care Institute. Pre-Post research design has been used in this study. The duration of Yogic Intervention was three months. The result of t-test revealed that the effect of yogic practices have significant effect on Lipid profile of Urban Population.

Keywords: Yogic Practices, Lipid Profile, Urban Population

Article Received: 17-03-2017, **Published:** 03-06-2017

Conflict of interest: None declared

***Corresponding Author: Ganesh Prasad;** Research Scholar, Department of Human Consciousness and Yogic Science, Gurukul Kangri Vishwavidyalaya, Haridwar, India.

International Journal of Science and Consciousness (IJSC): a Bio-Psycho-Spiritual approach
Published by the Research Foundation for Science & Consciousness, Uttarakhand, India

Effect of comprehensive yogic practices on lipid profile of urban population

Introduction:

Yoga is an ancient Indian system and is essentially spiritual. It has potential for both prevention of diseases and promotion of health. This holistic approach of Yoga brings harmony in all walks of life and also influences one's day-to-day living. It brings suitable changes in behavioral pattern and attitude, which helps to improve interpersonal relationships at home and also in society. Therapeutic benefits of Yoga have also been revealed by many scientific researches carried out across the globe. Today, Yoga has become popular because of its strengths in prevention and management of many lifestyle related disorders including physiological and psychosomatic disorders.

The present era is characterized by technological advancement aimed at making life comfortable. However, faulty lifestyle, pollution, modern work culture has made life difficult and created havoc in all dimensions of life (physical, mental, intellectual, emotional, social and spiritual). The specialty of this system is that it can get along with any other drug systems of health care and this facilitates the practitioners of other systems of medicine, including modern medicine experts, to prescribe Yogic therapies to the patients. There is a need to introduce such systems that could help to promote health and well-being of urban population at all levels.

Need of the study:

Urbanization is a major public health challenge in the 21st century. For the first time in human history, the majority of the world's population lives in cities. The global situation in 2014 (According to Global Health Observatory, launched by W.H.O), it is estimated that 54% of the world's population is living in urban areas. More than one billion people have been added to urban areas, globally, in the 14 years since 2000. It was only in 2008 that a majority of the world's population, for the first time, lived in urban areas. This demographic shift from rural to urban settings has major implications for health, and health equity. In 64 countries, globally, 80%

or more, and in 28 countries, 90% or more of the population lived in urban areas. The urban population in 2014 accounted for 54% of the total global population, up from 34% in 1960, and continues to grow. The global urban population is expected to grow approximately 1.84% per year between 2015 and 2020, 1.63% per year between 2020 and 2025, and 1.44% per year between 2025 and 2030. By 2030, it is estimated that about 60% of the world's population will be urban dwellers, projected to rise to about 70% by 2050.

Urbanization represents a great opportunity to maintaining and improving people's health and well-being. Urban areas are extremely complex environments in which a large number of environmental, social, cultural and economic factors have an impact on individual and population health and well-being. India's urban population is facing a rapid transformation of health determinants – deteriorating environmental conditions, continuing social fragmentation, and overburdened urban infrastructure – to name just a few. So, there is a need to inculcate yogic practices in everyday life, as it impacts the physical, mental and emotional well-being of individuals in today's urbanized life.

Review of the literature:

Saravanan, J.et al. (2010), studied the "Effect of Yogasana-s and Pranayama-s Exercises on Selected Biochemical and Physiological Variables". The study reveals that combined work of Asana-s and Pranayama-s significantly improves HDL (High Density Lipoprotein) concentration and decreases blood pressure, cholesterol, triglycerides and LDL (Low Density Lipoprotein) level.

Yograj P, Ramaraj P and Elangovan R. (2010), studied the "Effect of Selected Yogic practices Physical Exercises on Bio-Chemical Variables among Women College Students". The Yogic practice group had significant improvement in body cholesterol and improved triglyceride, HDL

and LDL.

Yogaraj P, Ramaraj P and Elangovan R. (2010), studied the "Effects of selected Asana-s on serum cholesterol and functions of adrenal gland in college women" The study revealed that the Serum Cholesterol and Functions of Adrenal Gland were significantly improved due to influence of selected Asana-s practice. .

Kasundra P.M., Thumar, P.B. and Mungra J.D. (2010), quoted the objective of the study was to assess the impact of Pranayama-s training on selected components of blood. This study revealed significant difference in pre-test and post-test of experimental groups of selected blood components i.e. cholesterol, blood glucose, hemoglobin, WBC, RBC, platelets. This shows that Pranayama-s training has an impact on selected components of blood.

Mahajan A.S. et al. (1999), studied the effect of Yogic lifestyle on the lipid status in angina patients and normal subjects with risk factors of coronary artery disease. The parameters included the body weight, estimation of serum cholesterol, triglycerides, HDL, LDL and the cholesterol - HDL ratio. The conclusion of the study was the effect of Yogic lifestyle on some of the modifiable risk factors could probably explain the preventive and therapeutic beneficial effect observed in coronary artery disease.

Research methodology

Dependent Variable:

Lipid profile: Lipid profile or lipid panel is a panel of blood tests that serves as an initial broad medical screening tool for abnormalities in lipids, such as cholesterol and triglycerides. The results of this test can identify certain genetic diseases and can determine approximate risks for cardiovascular disease, certain forms of pancreatitis, and other diseases. The lipid profile typically includes: Low density lipoprotein (LDL), High density lipoprotein (HDL), Triglycerides, Total cholesterol and Very Low Density Lipoprotein (VLDL). When cholesterol levels are in the normal range, in a healthy body, the blood flows freely through the veins and arteries. When the cholesterol levels are high, it starts forming clots (plaques) in the blood vessels causing hypertension (High

Blood Pressure), angina (chest pain), heart attacks, strokes and peripheral vascular diseases. As cholesterol is a fat that is insoluble in blood, it needs something to carry it or transport it in our body. LDL, HDL, VLDL are small molecules called lipoproteins that help with the same.

Independent variables: Sodhankriya(s), Yogic Suksma Vyayama(s) and Sthula Vyayama(s), Asana(s), Pranayama(s), Dhyana.

Hypothesis: On the basis of above found literature reviews, directional hypotheses is used in this research work.

1. Significant effect of yogic practices would be found on cholesterol level of urban population.
2. Yogic practices will effect significantly on the triglyceride level of urban population.
3. There will be significant effect of yogic practices on HDL level of urban population.
4. Yogic practices will effect significantly on the LDL level of urban population.
5. Significant effect of yogic practices would be found on VLDL level of urban population.

Research Design:

Pre - Post experimental group research design is used in the study.

Sample and Sampling:

The total sample consist of 50 participants, aged between 25 to 55 years selected through purposive sampling from the area of New Delhi and NCR.

Inclusion:

Aged between 25 -55years male and female.

Those who are willing to join program for the proposed time period.

Participants who will be regular for the proposed time period of Yogic intervention.

Exclusion:

Handicapped persons who cannot practice Yogic intervention.

Participant who will not be able to follow the proposed Yogic intervention.

Pregnant females.

Tools:

For the proposed research work, following tool is used: Semi Auto Analyzer: to measure Lipid

profile.

Intervention time period: 90 minutes.

Relaxation/Prayer: 3 minutes - Relaxation with yogic deep breathing and Prayer

Sodhankriya: 10 minutes- Jal neti (twice a week), Sutra neti (twice a week), Kunjal (twice a week), Vatkram Kapalbhati 3 rounds (60 strokes in each rounds everyday)

Yogic Sukshma Vyayama(s) and Sthula Vyayama(s): 10 minutes - Greeva shakti vikasak kriya, Skandh shakti vikasak kriya, Hrid gati, Sarvangpushti

Asana(s): 40 minutes- Suryanamaskar. 2 rounds, Tadasana, Tiryaka Tadasana, Katichakrasana, Ushtrasana, Paschimottanasana, Ardhamatsyendrasana, Makarasana, Bhujangasana, Sarvangasana, Matsyasana, Pawanamuktasana, Savasana.

Pranayama (s): 15 minutes- Nadisodhan- 10 rounds, Bhastrika- 6 rounds, Bhramari- 6 rounds.

Dhyana: Anapana. 10 minutes

Sankalpa and Shanti patha: 2 minutes

Dietary Advice: All the participants are advised to take vegetarian diet only. Participants are strictly advised to avoid smoking and consumption of alcohol.

Procedures:

We contacted the participants personally and after developing a good rapport we introduced our research and its purpose and after taking proper consent we collected the pre-intervention data related to the selected health parameters. After that, we gave yogic intervention to the group of participants for 12 weeks. All the Yogic practices were taught during the first 4 weeks and followed up by remaining 8 weeks. Daily Yogic intervention was given to the group for 90 minutes per day in morning time (except Sunday and government holidays). After completion of time period of 12 weeks, we took the post test of all participants. Lastly, we compare the results of pre-intervention values and post-intervention values and analyzed further.

Results:

Table 1 Comparison of Pre intervention and Post intervention Cholesterol level (Mean, SD and 't' value)

Cholesterol level	N	Mean	SD	"t"
Pre	50	189.61	33.86	7.23**
Post	50	177.01	29.60	

Table 1 indicates that there is significant decline of cholesterol level in the post-test mean value (M=177.01) than pre-test mean value (M=189.61) at 0.01 level of confidence (t=7.23, p<0.01). Thus, our first hypothesis is retained.

Table 2 Comparison of Pre intervention and Post intervention Triglyceride level (Mean, SD and 't' value)

Triglyceride level	N	Mean	SD	"t"
Pre	50	138.45	44.98	5.41**
Post	50	115.80	22.95	

Table 2 indicates that there is declination in mean score of Triglyceride level of the participants in the post value (M=115.80) comparing to pre value (M=138.45). Which signifies the effect of the intervention on triglyceride at 0.01 level of significance (t=5.41, p<0.01). Hence, our second hypothesis is accepted.

Table 3 Comparison of Pre intervention and Post intervention HDL level (Mean, SD and 't' value)

HDL level	N	Mean	SD	"t"
Pre	50	44.58	8.72	7.29**
Post	50	48.18	7.89	

Table 3 shows that there is increase in post mean value (M=48.18) of HDL than the pre mean value (M=44.58) at a significant level of 0.01 (t=7.29, p<0.01). Which is a positive indicator of sound health. Hence our third hypothesis is accepted.

Table 4 Comparison of Pre intervention and Post intervention LDL level (Mean, SD and 't' value)

LDL level	N	Mean	SD	"t"
Pre	50	117.84	28.41	6.12**
Post	50	105.67	24.22	

Table 4 suggest that there is significant reduction in post-test value (M=105.67) in comparison to pre-test value (M=117.84) at the level of 0.01 significance (t=6.12, p<0.01). Thus our fourth hypothesis is accepted.

Table 5 Comparison of Pre intervention and Post intervention VLDL level (Mean, SD and 't' value)

VLDL level	N	Mean	SD	"t"
Pre	50	27.69	8.99	5.41**
Post	50	23.16	4.59	

Table 5 indicates that the post-test mean score (M=23.16) of LDL is significantly less than the pre-test mean score (M=27.69) at the 0.01 level of confidence (t=5.41, p<0.01). Thus our fourth hypothesis is accepted.

Conclusion:

Based on our findings, it can be concluded that 12 weeks of comprehensive yogic practice which includes Sodhankriya(s), Yogic Suksma Vyayama(s) and Sthula Vyayama(s), Asana(s), Pranayama(s) and Dhyana has been found to be useful in improving all lipid profile parameters at a very high significance level. Pharmacological interventions are always associated with unwanted side effects. Non pharmacological methods like yoga should be encouraged and incorporated in our daily lives.

References:

1. Kasundra P.M., Thumar, P.B. and Mungra J.D. (2010). "Impact of Pranayama training on selected components of blood: An Analytical Study". *Journal of Advances Developmental Research*, 1:1, PP. 41-44.
2. Mahajan A.S. et al. (1999). "Lipid profile of coronary risk subjects following Yogic lifestyle intervention". *Indian Journal of Heart*. 51:1, PP.37-40.
3. Sarawati Muktibodhananand, (2009). *Hath Yoga Pradipika*. Bihar Yoga Publication

Trust.

4. Saraswati Niranjand, (2011). *Gheranda Samhita*. Bihar Yoga Publication Trust.
5. Brhamachari, Dhirender, (1956), *Yogic Suksham Vyayama*, Dhirender Yoga Prakashan.
6. Saravanan, J. et al. (2010). "Effect of Yogasana and Pranayama Exercises on Selected Biochemical and Physiological Variables" *Indian Journal for Research in Physical Education and Sports science*, 5:1, PP.56-60.
7. Saraswati Satyanand, (2008). *Asana, Pranayama, Mudra & Bandha*. Bihar, Yoga Publication Trust.
8. Yogaraj P, Ramaraj P and Elangovan R. (2010). "Effect of Selected Yogic Practices Physical Exercises on Bio-Chemical Variables among College Women Students". *Asian Journal of Physical Education & Computer Science in Sports*, 3:1, PP.27-29.
9. Yogaraj P, Ramaraj P and Elangovan R. (2010). "Effects of selected Asana(s) on serum cholesterol and functions of adrenal gland in college women". *Asian Journal of Physical Education & Computer Science in Sports*, 2:1, PP.206-08.

Cite this paper as: Prasad, G. and Bhardwaj, I. (2017). Effect of comprehensive yogic practices on lipid profile of urban population. *International Journal of Science and Consciousness*; 3(2): 24-28.