



Effect of *Pranayama* (voluntary regulated breathing) and *Yogasana* (yoga postures) on lipid profile in normal healthy junior footballers

BK Acharya, AK Upadhyay, Ruchita T Upadhyay,¹ and A Kumar²

Department of Research and Development, Divya Yog Mandir Trust (SIRO), Patanjali Yog Peeth, Haridwar, India

¹Yog Education and Training, Divya Yog Mandir Trust (SIRO), Patanjali Yog Peeth, Haridwar, India

²Department of Research and Development, Patanjali Ayurved Limited, D-38 Industrial Area, Haridwar, India E-mail: avnishdr@yahoo.co.in

This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

There are many styles of *Pranayama* (Voluntary Regulated Breathing) and *Yogasana* (Yoga Postures) that range from very dynamic, active movements that go from one posture to another (and result in a thorough aerobic workout) to more slow-paced practices that hold postures for several minutes and form an intense strength training and balanced workout. Twenty male junior footballers younger than 15 years of age, belonging to the Mohun Bagan Athletic Club, Kolkata, were selected for the study at Haridwar. They had to play in a Football Cup organized in UK and they were here to practice yoga sequences taught by Swami Ramdevji.[1–3] They were of age 14.65 ± 0.58 years and none of them had a history of lipid metabolism disorders. All the footballers were healthy with no history of smoking or alcohol consumption. The scope and objectives of the present study were explained to the subjects and their written consent was obtained for participation in the study. The institutional ethical committee had approved the study protocol and design. The subjects were asked to follow their routine diet and exercise pattern during the period of study. None of the subjects were exposed to *yogic* practices before this *yoga* training session. There was a significant reduction in the levels of serum cholesterol, Low-density lipoprotein (LDL) cholesterol, serum triglycerides, and very-low-density lipoprotein (VLDL)-cholesterol at the end of the *yoga* session. The results indicated that the fasting blood sugar (FBS) level was positively elevated in junior footballers. This demonstrated that *Pranayama* and *Yogasana* were helpful in regulating sugar level also [Table 1 and Figure 1].

Parameter	Before Yoga	After Yoga
Total Cholesterol	180	150
LDL Cholesterol	120	90
HDL Cholesterol	40	60
Triglycerides	150	100
Fasting Blood Sugar (FBS)	100	120

Table 1

Lipid profile in subjects before and after yoga practices

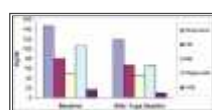


Figure 1

Change in lipid profile after yoga session

The present study demonstrates the efficacy of SRY (Swami Ramdev Yoga)- *Pranayama* and *Yogasana* sequences on blood lipid profiles in normal healthy footballers. *Pranayama* and

Yogasana can be used as supportive therapy in patients with lipid disorders, heart diseases, hypoglycemia, and so on. There is a need for conducting the experiments on a larger number of participants, to explore the results and mode of action.

Acknowledgments

The authors would like to thank Dr. Shirley Telles and Dr. Naveen K. Vishveshwaraiah [Swami Vivekananda Yoga Anusandhan Sansthan (SVYASA), Bangalore] for his methodological revision of the study.

REFERENCES

1. Acharya Balkrishna. *Yog-In Synergy with Medical Science*. Haridwar: Divya Prakashan; 2007-6. pp. 65–71.
2. Swami Ramdev. *Yog-Its Philosophy and Practice*. Haridwar: Divya Prakashan; 2005-3. pp. 43–83.
3. Swami Ramdev. *Pranayama Rahasya*. Haridwar: Divya Prakashan; 2005-3.

Articles from *International Journal of Yoga* are provided here courtesy of
Medknow Publications