ABSTRACT

Background: The prevalence of diabetes has been steadily increasing for the past three decades. Many factors including personal, social, and environmental factors influence on the onset and progression of the disease. There is a significant evidence suggest metabolic consequences of stress in an individual suffering from chronic disease like diabetes mellitus. Researches on pranayama, demonstrated its ability to regulate autonomic functions and metabolic consequences brought about by the stress. Previous study on various pranayama in healthy individual has shown improvement in fasting and post-prandial blood glucose level.

Aim: To evaluate and compare the effects of Bhastrika and Kapalbhati Pranayama on blood glucose level in subjects with type 2 diabetes mellitus; A prospective pre-post study design.

Methodology: Fifty subjects aged between 30 – 55 years, pre-diagnosed with Type 2 Diabetes Mellitus, who satisfy inclusion and exclusion criteria were recruited from the Out Patients Department of Government Yoga and Naturopathy Medical College and Hospital, Chennai. They were randomized to two groups. Group A (n=25) practiced Bhastrika Pranayama and Group B (n=25) practiced Kapalbhati Pranayama for five weeks (30 days practice with break of a day after every 6 days). The Fasting Blood Glucose (FBG) and 2-hr Post-Prandial Blood Glucose (PPBG) were estimated on day 1 (baseline data) and day 30 (end-point data). The collected data were properly maintained and statistically analyzed using “paired’ t’ test” and “two-sample’ t’ test” with Stats 9.0 (College, Station, Texas, USA).
Result: The result demonstrates a statistically significant change in both fasting blood glucose (FBG) and post-prandial blood glucose (PPBG) level in subjects of both Groups (Bhastrika and Kapalbhati group). The overall comparison between the groups revealed that the practice of bhastrika pranyama generated better outcome, compared to those practiced kapalbhati pranayama.

Conclusion: Present study findings suggest that the practice of Bhastrika as well as kapalbhati pranayama found to be effective in improving the biochemical parameters viz. fasting blood glucose and post-prandial blood glucose of type 2 diabetes mellitus. Hence, the practice of pranayama can be implemented in the management of diabetes. Further study of longer duration and large number of samples is necessary to reaffirm the assertion.

Keywords: Type 2 Diabetes Mellitus, Bhastrika Pranayama, Kapalbhati Pranayama, Fasting Blood Glucose, Post-Prandial Blood Glucose.