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## Analyzing the impact of a 6-week Bharamari pranayama practice on fasting blood sugar levels among university level boys: a quantitative study

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### Abstract

The purpose of this study was to analyze the impact of a 6-week Bharamari Pranayama breathing practice and outcome of an intervention using the training programme to maintain Fasting Blood Sugar of university level boys. For the purpose of present study Forty Two (n=42), university level boys between the age group of 19-25 years were selected. The subjects were purposively assigned into two groups: Group-A: Experimental (n<sub>1</sub>=21); Group-B: Control (n<sub>2</sub>=21). The subjects from Group-A: Experimental were subjected to a 6-week training of Bharamari Pranayama. Student t test for paired samples was utilized to compare the means of pre-test and post-test. Based on the analysis of the results it is concluded that insignificant differences were noted in Fasting Blood Sugar of university level boys.

**Keywords:** Bharamari, pranayama, statistical package for the social sciences, fasting blood sugar

### Introduction

Pranayama, a fundamental aspect of yoga practice, involves controlled breathing techniques aimed at enhancing physical and mental well-being. Its potential impact on fasting blood sugar levels in young adults has garnered significant interest in recent years. Fasting blood sugar levels are crucial indicators of metabolic health, particularly in the context of conditions like diabetes, which are increasingly prevalent among younger populations. Understanding how pranayama influences these markers can offer valuable insights into holistic approaches to managing blood sugar levels and promoting overall health in young adults [5], [14].

However, while anecdotal evidence and some studies suggest a beneficial relationship between pranayama practice and fasting blood sugar levels, the scientific literature remains somewhat limited and inconclusive. Further research is needed to elucidate the specific mechanisms through which pranayama may exert its effects on blood sugar regulation and to determine optimal practices for incorporating pranayama into lifestyle interventions targeting metabolic health in young adults [6]. This exploration holds promise for the development of novel, non-pharmacological strategies for mitigating the risk of metabolic disorders and fostering well-being among today's youth.

### Material and Methods

The experimental work is planned to draw meaningful conclusions. Forty Two (n=42), university level boys between the age group of 19-25 years were selected from Guru Nanak Dev University, Amritsar. The subjects were purposively assigned into two groups: Group-A: Experimental (n<sub>1</sub>=21); Group-B: Control (n<sub>2</sub>=21). The subjects from Group-A: Experimental were subjected to a 6-week training of Bharamari Pranayama. This lasted 6-week and consisted of daily morning sessions. The Blood Glucose meter was used to measure fasting blood sugar.

### Statistical Analysis

The paired sample t-test was used to test the between-group differences. To test the hypothesis, the level of significance was set at 0.05. The Statistical Package for the Social Sciences (SPSS) version 26.0 was used for the research findings.

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## Results

**Table 1:** Descriptive statistics (Mean & Standard Deviation) and paired sample t-test of Experimental and Control Group of Fasting Blood Sugar of university level boys.

Fasting Blood Sugar						
Group	Number	Mean	Standard Deviation	Standard Error of the Mean	t-value	p-value
Experimental (Pre-test)	21	96.38	2.08	0.45	2.0042	0.0588
Experimental (Post-test)	21	95.23	2.80	0.61		
Control (Pre-test)	21	96.09	2.38	0.52	0.1012	0.9204
Control (Post-test)	21	96.04	2.35	0.51		

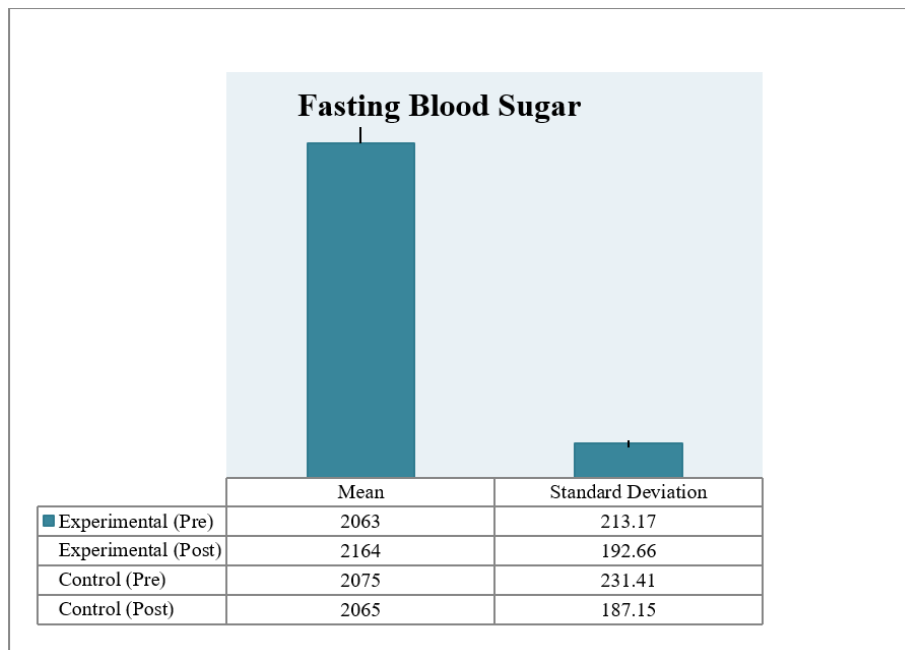
### Fasting Blood Sugar

#### Experimental Group (n<sub>1</sub>=21)

The absolute value of the calculated p is greater than critical value [0.0588 > 0.05], so the means of experimental group (Pre-Test & Post-Test) are not significantly different regards to the variable, Fasting Blood Sugar of university level boys.

#### Control Group (n<sub>2</sub>=21)

The absolute value of the calculated p is greater than critical value [0.9204 > 0.05], so the means of control group (Pre-Test & Post-Test) are not significantly different regards to the variable, Fasting Blood Sugar of university level boys.



**Fig 1:** Mean and SD values of Fasting Blood Sugar of Experimental and Control group (n=21 each) before (Pre) and after (Post) 6-week Bharamari Pranayama Training Programme.

## References

- Abbasi T, Parvaneh N, Hedayati M, Alizadeh R. The effect of eight weeks of high intensity interval training on osteopontin and some bone mineral indices in young women. *Journal of Physical Education and Sport*. 2018;18(1):532-535.
- Ahmad H, Alghadir SA, Gabr, Einas Al-Eisa. Physical activity and lifestyle effects on bone mineral density among young adults: sociodemographic and biochemical analysis. *J PhysTher Sci*. 2015;27(7):2261-2270.
- Bedekar C, Hande D. Effect of yoga on health related physical fitness. *International Journal of Multidisciplinary Research and Development*. 2017;4(3):105-109.
- Brandani JZ, Mizuno J, Ciolac EG, Monteiro HL. The hypotensive effect of Yoga's breathing exercises: A systematic review. *Complement therClinPract*. 2017;28:38-46.
- Caren L, Ruby Y, Jean W. Effects of a 12-Week Hatha Yoga Intervention on Metabolic Risk and Quality of Life in Hong Kong Chinese Adults with and without Metabolic Syndrome. 2015.
- Lu YH, Rosner B, Chang G, Fishman LM. Twelve-Minute Daily Yoga Regimen Reverses Osteoporotic Bone. *Top Geriatr Rehabil*. 2016;32(2):81-87.
- Nidhi R, Padmalatha V, Nagarathna R, Ram A. Effect of a yoga program on glucose metabolism and blood lipid levels in adolescent girls with polycystic ovary syndrome. *Int J GynaecolObstet*. 2012;118(1):37-41.
- Polsgrove MJ, Eggleston BM, Lockyer RJ. Impact of 10-weeks of yoga practice on flexibility and balance of college athletes. *Int J Yoga*. 2016;9(1):27-34.
- Posadzki P, Cramer H, Kuzdzal A, SooLee M, Ernst E. Yoga for hypertension: A systematic review of randomized clinical trials. *Complementary Therapies in Medicine*. 2014;22(3):511-522.
- Rayat S. Effect of Yoga on Selected Physical and Physiological Variables of Physical Education Students. *Journal of Sports and Physical Education*. 2015;2(4):18-24.

11. Roopa B, Ankad A, Herur S, Patil GV, Shashikala, Chinagudi S. Effect of Short-Term Pranayama and Meditation on Cardiovascular Functions in Healthy Individuals. *Heart Views*. 2018;12(2):58-62.
12. Saoji AA, Raghavendra BR, Manjunath NK. Effects of yogic breath regulation: A narrative review of scientific evidence. *Journal of Ayurveda and Integrative Medicine*. 2018.
13. Stone TM, Wingo JE, Young JC, Navalta JW. An Evaluation of Select Physical Activity Exercise Classes on Bone Metabolism. *Int J ExercSci*. 2018;11(2):452-461.
14. Ughreja RA, Ughreja RA. Type 2 diabetes mellitus, physical activity, yoga and telomere length: A literature review. *Journal of Insulin Resistance*. 2019, 4(1).
15. Yadav RK, Magan D, Yadav R, Sarvottam K, Netam R. High-density lipoprotein cholesterol increases following a short-term yoga-based lifestyle intervention: a non-pharmacological modulation. *Acta Cardiol*. 2018;69(5):543-9.