

## Effect Of Yoga Practices On Blood Sugar And Stress Among Migraine Sufferers

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### Abstract

To facilitate the random group experimental study, 90 Men suffering with Migraine between 35 to 45 years of age were invited, 60 screened and selected finally in random as subjects by using random group sampling design. Subjects were divided into two groups of 20 each. Yoga therapy was imparted for 12 weeks to the experimental and control kept in active rest. The pre-test and post-test were conducted before and after the training for the experimental and control group and the scores on Blood Sugar and Stress were measured. Analysis of covariance (ANCOVA) was used to find out the significant differences among the groups. The result of the study showed that Blood Sugar and Stress significantly reduced as a result of Yogic practices in the Experimental Group. Hence the hypothesis was accepted at 0.05 level of confidence. The conclusion was that the Yogic practices helped to reduce Blood Sugar and decrease stress level among Men suffering with Migraine

**Key words:** Yogic practices, Middle Aged Men, Blood Sugar and Stress.

### Introduction

One of the most common and debilitating neurological diseases is migraine. Among more than 200 headache varieties, it remains the most common and debilitating. Women aged 35–45 are more likely to have migraines, a primary headache disease. Migraines can be recurring and lifelong. Recent beginning episodes are particularly distinctive. Brain-released pain-mediating inflammatory chemicals produce them. These inflammatory chemicals surround brain neurons and blood vessels, causing vasodilation and discomfort. Most attacks are moderate or severe, one-sided, pulsing, and worsened by ordinary physical activity. They last hours to two to three days. Most migraine sufferers experience "episodic migraine," with <15 headache days per month, whereas two-thirds have about four headache days per month.

### Aim and objectives:

The aim and objectives of the study was to find out whether there would be any significant difference on selected Physiological variable such as Blood Sugar and Stress due to yogic practices among men suffering with Migraine.

### Hypothesis

It is hypothesized that there would be significant differences between yogic practices group and control group on selected biochemical and psychological variables among men suffering with Migraine

### Delimitations

- Individuals of age below 35 and above 45.
- Suffering from headaches other than Migraine
- The study was confined to yogic practices as independent variable only
- The study was confined to Blood Sugar, and Stress only.

### Limitations

- Associated with Cardiovascular and Renal diseases and other chronic systemic disorders and risk factors.
- Conditions affecting consciousness, cognition, mood, sensory motor functions and other important neurological or neuro-psychological function impairments will be excluded.
- The factors would not be taken into consideration like:

Medicine intake, Personal habits and addiction, Environmental conditions, Family history, Disabilities, Climatic conditions.

## Review Of Related Literature

(Wells et.al., 2021 Mar) Migraine is the second leading cause of disability worldwide. Most patients with migraine discontinue medications due to inefficacy or adverse effects. Mindfulness-based stress reduction (MBSR) may provide benefit. To determine if MBSR improves migraine outcomes and affective/cognitive processes compared with headache education. This randomized clinical trial of MBSR vs headache education included 89 adults who experienced between 4 and 20 migraine days per month. There was blinding of participants (to active vs comparator group assignments) and principal investigators/data analysts (to group assignment). Participants underwent MBSR (standardized training in mindfulness/yoga) or headache education (migraine information) delivered in groups that met for 2 hours each week for 8 weeks. The primary outcome was change in migraine day frequency (baseline to 12 weeks). Secondary outcomes were changes in disability, quality of life, self-efficacy, pain catastrophizing, depression scores, and experimentally induced pain intensity and unpleasantness (baseline to 12, 24, and 36 weeks). Mindfulness-based stress reduction did not improve migraine frequency more than headache education, as both groups had similar decreases; however, MBSR improved disability, quality of life, self-efficacy, pain catastrophizing, and depression out to 36 weeks, with decreased experimentally induced pain suggesting a potential shift in pain appraisal. In conclusion, MBSR may help treat total migraine burden, but a larger, more definitive study is needed to further investigate these results.

(Kachhadia et.al.,2023) One of the most common disabling primary headache conditions, migraines are chronic, severe, and treated with medication. Migraine patients have a lower quality of life. Non-pharmacological techniques to relieve stress and anxiety in long-term chronic illnesses can enhance quality of life, disease burden, and patient economic burden. Yoga as a non-pharmacological migraine treatment is reviewed here. We review the latest research on using yoga to treat migraines and reduce anxiety, tension, and severity. Yoga appears to reduce migraine headache frequency, duration, and pain, despite limitations and the need for more research. Yoga also improves headache impact severity migraine disability assessment.

(Fagherazzi et.al.,2019) Migraine and type 2 diabetes are linked, however their temporal relationship is unknown. To examine the relationship between migraine and type 2 diabetes and the change in active migraine prevalence before and after diagnosis. We used data from the 1990 French prospective population-based E3N cohort study of women born between 1925 and 1950. E3N research participants are insured by a teacher-focused health plan. E3N research eligible women who completed the 2002 migraine follow-up questionnaire were included. We next removed prevalent type 2 diabetes, leaving a final sample of women monitored from 2004 to 2014. Drug reimbursement databases identified all type 2 diabetes cases. Statistical analyses were done in March 2018. At baseline, participants had a mean (SD) age of 61 (6) years and no type 2 diabetes. In 10 years of follow-up, 2372 type 2 diabetes cases occurred. Women with active migraine had a reduced incidence of type 2 diabetes than those without migraine (univariate hazard ratio, 0.80 [95% CI, 0.67-0.96], multivariable-adjusted hazard ratio, 0.70 [95%, 0.58-0.85]). After adjusting for type 2 diabetes risk variables, active migraine prevalence decreased linearly from 22% (95% CI, 16%-27%) to 11% (95% CI, 10%-12%) in the 24 years prior to diabetes diagnosis. After diagnosis, migraine prevalence plateaued at 11% for 22 years. Women with active migraine had a decreased risk of type 2 diabetes and a lower prevalence of active migraine before diabetes diagnosis. Further research should investigate the mechanisms behind these findings.

## Methodology

To facilitate the random group experimental study, 90 Men suffering with Migraine between 35 to 45 years of Age were invited, 60 screened and selected finally in random as subjects by using random group sampling design. Subjects were divided into two groups of 20 each. Yoga therapy was imparted for 12 weeks to the experimental and control kept in active rest The pre-test and post-test were conducted before and after the training for the experimental and control group and the scores on Blood Sugar and Stress were measured. Analysis of covariance (ANCOVA) was used to find out the significant differences among the groups. The result of the study showed that Blood Sugar and Stress significantly reduced as a result of Yogic practices in the Experimental Group. Hence the hypothesis was accepted at 0.05 level of confidence. The conclusion was that the Yogic practices helped reduce Blood Sugar and Stress among Men suffering with Migraine. The practice of yoga techniques like Asana, Pranayama, Meditation, Mudra etc helps to overcome any imbalances and creates harmony in the physical, mental, psychological and spiritual aspects of human personality

## Results And Discussions

The results of the study on the selected variables showed that for the Group Blood Sugar. The data pertaining to the variables collected from the two groups before and after the training period were statistically analysed by using Analysis of Co-variance (ANCOVA) to determine the significant difference and tested at 0.05 level of confidence. These are shown in the tables below.

## Results On Blood Sugar

The Analysis of Co-variance (ANCOVA) on Blood Sugar of Yogic Practices Group and Control Group was analysed and presented in Table I.

**Table I**

ANALYSIS OF CO-VARIANCE OF THE MEANS OF YOGIC PRACTICES GROUP AND CONTROL GROUP ON BLOOD SUGAR

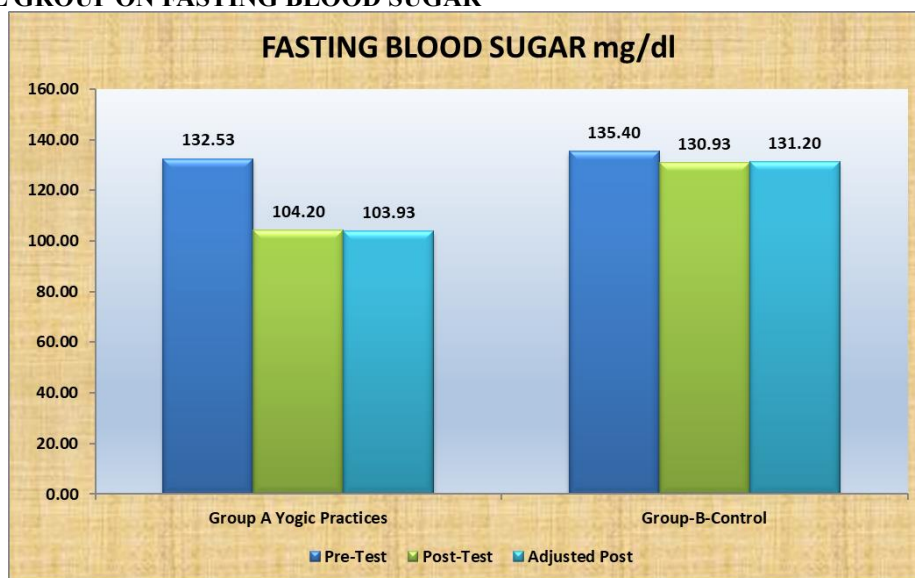
Test	Yogic Practices Group	Control Group	Source of Variance	df	Mean Squares	F Ratio
Pre test	132.53	135.40	between	1	135.40	1.89
			within	28	71.76	
Post test	104.20	135.93	between	1	5360.03	46.56
			within	28	115.12	
Adjusted	103.93	131.20	between	1	5412.00	46.35
			within	27	116.76	
Mean gain	-28.33	-4.47				

*\*Significant at 0.05 level of confidence. (Table F ratio at 0.05 level of confidence for 1 and 28 (df) =4.2, 1 and 27(df) =4.21.*

The obtained F ratio on pre-test scores 1.89 at 0.05 level of confidence. This proved that there was no significant difference between the groups on fasting blood sugar in pre-test and the randomization at the pre-test was equal. The posttest and adjusted post test scores analysis proved that there was significant difference between the groups, as obtained F values 46.56 and 46.35 were greater than the required F value of 4.2 and 4.21 respectively in line with the study conducted by *Fagherazzi*.

**Figure – 1**

ANALYSIS OF CO-VARIANCE OF THE MEANS OF YOGIC PRACTICES GROUP AND CONTROL GROUP ON FASTING BLOOD SUGAR



*\*Significant at 0.05 level of confidence. (Table F ratio at 0.05 level of confidence for 1 and 28 (df) =4.2, 1 and 27(df) =4.21.*

The pre- test, post- test and adjusted post –test mean values of Yogic Practices group and the Control Group on Blood Sugar were graphically presented in Figure I.

## Results On Stress

The Analysis of Co-variance (ANCOVA) on Stress of Yogic Practices Group and Control Group was analysed and presented in Table II.

**Table II**

**ANALYSIS OF CO-VARIANCE OF THE MEANS OF YOGIC PRACTICES GROUP AND CONTROL GROUP ON STRESS**

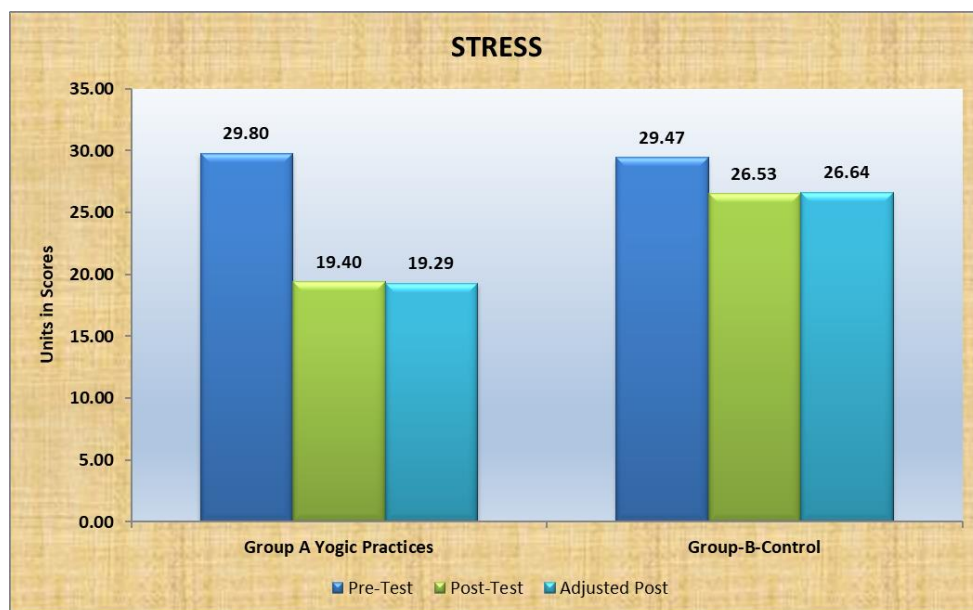
Test	Yogic Practices Group	Control Group	Source of Variance	df	Mean Squares	F Ratio
Pre test	29.80	29.47	between	1	29.47	1.01
			within	28	29.08	
Post test	19.40	26.53	between	1	381.63	12.55
			within	28	30.40	
Adjusted	19.29	26.64	between	1	404.99	21.85
			within	27	18.54	
Mean gain	-10.40	-2.93				

*\*Significant at 0.05 level of confidence. (Table F ratio at 0.05 level of confidence for 1 and 28 (df) =4.2, 1 and 27(df) =4.21.*

The obtained F ratio on pre-test scores 1.01 at 0.05 level of confidence. This proved that there was no significant difference between the groups on stress in pre-test and the randomization at the pre-test was equal. The posttest and adjusted post test scores analysis proved that there was significant difference between the groups , as obtained F values 12.55 and 21.85 were greater than the required F value of 4.2 and 4.21 respectively *in line with the study conducted by Kachhadia. The pre- test, post- test and adjusted post –test mean values of Yogic Practices group and the Control Group on Stress were graphically presented in Figure II.*

**Figure – II**

**ANALYSIS OF CO-VARIANCE OF THE MEANS OF YOGIC PRACTICES GROUP AND CONTROL GROUP ON STRESS**



*\*Significant at 0.05 level of confidence. (Table F ratio at 0.05 level of confidence for 1 and 28 (df) =4.2, 1 and 27(df) =4.21.*

## Conclusions

It was concluded for Experimental Group Blood Sugar and Stress were significantly stabilized due to the influence of yoga practices than the control group among men suffering with Migraine

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