

# Effect of selected Yogic Techniques on Visual Acuity among the Rural Adult Population of Ludhiana, Punjab

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**Abstract**— *The aim of this study was to see how certain yoga exercises affected right and left eye visual acuity. A total of twenty people (N=20) from Ludhiana were chosen to participate in the study. The study was done on a random basis, with participants aged 40 and above. All eyesight samples were taken by an optometrist and assessed in a fully computerized ophthalmology clinic to determine the effect of yoga exercises on right eye visual acuity. Palming, blinking, sideways viewing, rotational viewing, up and down viewing close and far, Tratak, Bhramari pranayama, Neti (jal and raber) The t-test, mean, and standard deviation were used. To test the hypotheses, the level of significance was fixed at 0.05, and P<0.05 was used. The study's findings were explained. Results of the study explicated statistically that there was insignificant difference in Right Eye Female.*

**Keywords**— *Visual acuity, female, right eye, left eye and yogic Techniques*

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## I. INTRODUCTION

To improve their vision, many people use spectacles or contact lenses. Glasses, however, do not actually cure bad eye sight. In fact, eye problems often get worse with their use and require stronger lenses than ever before. Conducted mobile phone use while walking can cause dual-task interference and increases safety risks by increasing intentional and cognitive demands. Although the harmful effects on cognitive function have been extensively researched, little is known about how using a phone while walking affects environmental awareness and gait dynamics. This study investigated the extent of visual information loss and its consequent impact on dynamic gait stability. Adults (40 years and above) volunteered and walked on a treadmill while texting and attending to visual tasks simultaneously. Visual task performance, gaze reduction, and stable margins in dual-tasking conditions were compared with performance under single-tasking conditions (i.e. visual tasks only). The results showed that the size of the visual field and the need for visual acuity varied according to the conditions of the visual task. About half of the visual cues provided when texting while walking were not perceived compared with the picture-only task condition. The area of distrust has also increased with the increase in the cost of using dual-duty mobile phones. However, gait stability did not show significant differences between conditions. Taken together, the results demonstrate that loss of situational awareness is inevitable and co-occurs with a decrease in concurrent task performance. The study indicates the importance of considering the nature of attention resources for the studies in dual-task paradigm and may provide practical information to

improve the safe use of mobile phones while walking (Lim *et al.* (2017) [3].

Therefore, it is important to block events where the sensory and motor cortexes are not important. Tactile depression is a well-known phenomenon and is defined as a decrease in the ability of the skin to detect tactile events before and during exercise. The study was found detection rates decrease just prior to and during finger abduction and decrease according to the proximity of the moving effect on. But how does vision affect tactile gating? There is ample evidence observing increased tactile acuity when participants see their limbs. The goal of this study was to see how tactile detection varies as a result of visual condition (vision vs. no vision). Ten human subjects reached out to the cylinder with their right hand and squeezed it. Tractor were attached to the index finger and the forearm of both the right and and left arm vibrated at different epochs in response to a "go" tone. The results back up previous findings from our group (Colino *et al.* in *Physiol Rep* 2(3):e00267 2014). Tactile acuity also decreased when participants did not have vision. These findings suggest that vision influences somatosensation via inputs from parietal areas (Colino *et al.* (2016)[1]).

## II. METHODOLOGY AND PROCEDURE

A total of 20 people were involved in the research (10 men and 10 women). The participants were between the ages of 40 and above. All the samples were selected on purposive basis. The term "visual acuity" (VA) refers to the sharpness of one's vision. Optical and neural elements influence visual acuity, including I the sharpness of the retinal focus within the eye, (ii) the health and function of the retina, and (iii) the sensitivity of the brain's interpretative faculty. 10 men and 10

women’s subjects for visual acuity were selected from Ludhiana and the subject was mentioned of tools in time duration of 30-45 minutes in peaceful corner of the institution under laboratory like conditions. Three months yogic training protocol was consisted of following exercises. There were Palming, Blinking, Sideways viewing, Front and Sideways viewing, Rotational viewing, Up and down viewing, near and distant viewing, Tratak, Bhramari pranayama, Neti (jal and raber)etc. Before and after the commencement of exercises protocol, the eyesight of all subjects was measured. All eyesight samples were taken by the optometrist and examined in a fully computerized ophthalmology clinic.

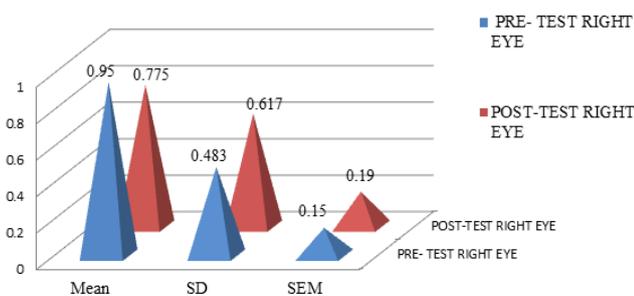
- i) Near and distant viewing
- ii) Up & down viewing
- iii) Palming
- iv) Tratak
- v) Blinking
- vi) Sideways viewing
- vii) Neti (jal and raber)- Nasal cleansing technique
- viii) Front & Sideways viewing
- ix) Rotational viewing
- x) Bhramari pranayama

**Table 1:** Represents Pre and Post Test The Effects Of A Three-Month Training Session On Females' Right-Eye Visual Acuity.

Group	N	Mean	Standard Deviation	Standard error mean	t-value
PRE TEST	10	0.950	0.483	0.15	1.9091
POST TEST	10	0.775	0.617	0.19	

t.05 (09) = 2.26

The table & figure 1 reveals that the mean of pre and post-test of right eye female were recorded as 0.950 & 0.775 whereas the standard deviation was 0.483 & 0.617 respectively. The calculated t- value for pre and post Yogic exercises on Visual Acuity was 1.9091, which is less than the tabulated t- value (2.26) at .05 level of significance. So, it implies that there was insignificant difference found between pre and post value of right eye female



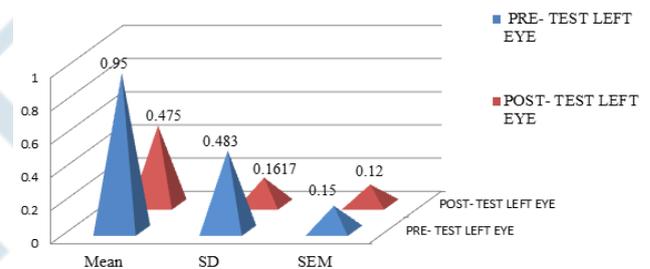
**Figure 1:** Represents Pre and Post Test The Effects Of A Three-Month Training Session On Females' Right-Eye Visual Acuity.

**Table 2:** Represents Pre and Post Test The Effects Of A Three-Month Training Session On Females' Left-Eye Visual Acuity.

Group	N	Mean	Standard Deviation	Standard error mean	t-value
PRE TEST	10	0.950	0.483	0.15	4.3846*
POST TEST	10	0.475	0.381	0.12	

t.05 (09) = 2.26

The table & figure 2 reveals that the mean of pre and post-test of left eye female were recorded as 0.950 & 0.475 whereas the standard deviation was 0.483 & 0.381 respectively. The calculated t- value for pre and post Yogic exercises on Visual Acuity was 4.3846\*, which is greater than the tabulated t- value (2.26) at .05 level of significance. So, it implies that there was significant difference found between pre and post value of left eye female.



**Figure 2:** Represents Pre and Post Test the Effects of a Three-Month Training Session on Females' left-Eye Visual Acuity.

### III. DISCUSSION OF THE FINDINGS

The researcher came to the following conclusions based on the statistical analysis of the data:

1. Female Right Eye: The study found that after three months of yoga exercises, the right eye of female subjects showed no significant difference in a single experimental group. The study's findings corroborated those of (Jaiswal, 2016) [2]. Who also reported a statistically minor difference in right eye latency when compared to controls; however the difference was statistically negligible.

2. Female Left Eye: The results of the study revealed that after three months of yoga exercises, the left eye of females displays a significant difference in a single experimental group. The findings of the study backed with the conclusions of (Lim, 2016)[3].

### IV. CONCLUSIONS OF THE STUDY

Based on the findings of this inquiry, the following conclusions were formed.

- 1. The findings revealed that there was no statistically significant difference between the pre- and post-test visual acuity of right eye females.
- 2. There were significant changes in left eye females' visual acuity pre and post-test.

**REFERENCES**

- [1]. Colino FL, Lee JH, Binsted G(2016)“Availability of vision and tactile gating: vision enhances tactile sensitivity.” Journal of Experimental brain research”; 235(1):341-348. doi: 10.1007/s00221-016-4785-3. Epub.
- [2]. Jaiswal P, Saxena Y, Gupta R, Kaushik RM.(2016) “Pattern Reversal Visual Evoked Potential and Cognitive Functions in Subclinical Hypothyroid Subjects.” Journal of neurosciences in rural practice. 2016; 7(Suppl 1):S46-S51. doi: 10.4103/0976-3147.196470.
- [3]. Lim J, Chang SH, Lee J, Kim K.(2017)“ Effects of smartphone texting on the visual perception and dynamic walking stability”. Journal of exercise rehabilitation, 28;13(1):48-54.

