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Nirmalendu Gayen
Researcher Scholar of
Department of Physical
Education, Visva-Bharati,
Santiniketan West Bengal, India

Asit Mahara
Researcher Scholar of
Department of Physical
Education, Visva-Bharati,
Santiniketan West Bengal, India

Brajanath Kundu
Visva-Bharati, Santiniketan
West Bengal, India

A comparative study between yoga and walking on blood pressure and reaction time

Nirmalendu Gayen, Asit Mahara and Brajanath Kundu

Abstract

The purpose of the study was to find out the effects of Yoga and Walking on blood pressure and reaction time. In this study 10 middle aged men were concluded as the subjects. The mean age of the subjects was 49 years. In this study the researcher used standard sphygmomanometer to measure the Blood pressure and Ruler Drop Test was used to measure the reaction time. Every variable was measured three times, at the time of resting condition, after walking and after practicing yoga. After taking the measure at resting condition the researcher told to the subjects to perform 20 minutes walking. The researcher measured the blood pressure and reaction time immediately after completing the 20 minutes of walking. The subjects were allowed to take few minutes of rest then the practiced 20 minutes of yoga and again the variables were tested. The mean catching distance at resting condition was 18.68 cm (near about 80 milliseconds). The mean catching distance after 20 minutes of walking and 20 minutes of were 16.71 (near about 60 milliseconds) and 17.66 (near about 70 milliseconds) which is better than resting condition but not significant. Significant difference found in systolic blood pressure between Yoga and Walking. But there was no significant difference in diastolic blood pressure. Significant difference in systolic blood pressure found between yoga and walking. Yoga showed a better reduction in systolic blood pressure. Whereas no significant difference found in diastolic blood pressure. Yoga and walking both showed a better performance in reaction time test compared with control condition but the level was not significant.

Keywords: Blood pressure, reaction time, yoga, walking, omron automatic blood pressure monitor, 30 cm ruler

Introduction

Yoga is a group of physical, mental, and spiritual practices or disciplines which originated in ancient India. Yoga improves flexibility, builds muscle strength, perfects posture, increases blood flow, ups heart rate, drops our blood pressure etc. High blood pressure or hypertension increases the risk of heart disease and stroke. Chronic kidney disease, Eye damage, Heart attack, Heart failure, Peripheral artery disease, Stroke, Vascular dementia. Reaction time is the length of time between a stimulus and a person's response to it. In Neurosciences it is often helpful in a diagnosis to measure the time it takes for a stimulus to travel down the nerves. Science in this area is very advanced now and can track stimulus/response times very accurately. Now if reaction times are 'slower than normal' this could indicate diseases like Multiple Sclerosis or Muscular Dystrophy. Muscular dystrophy is a diseases which affects our muscles. It weakens the muscle fibers and deteriorate. It causes problem with walking, gripping, breathing, eating etc.

Methodology

Subjects: Ten middle aged men were participated in this study from Santiniketan area.

Tools of the study: Omron automatic blood pressure monitor, 30 cm Ruler.

Procedure: In this study the researcher used standard sphygmomanometer to measure the blood pressure and Ruler drop test was used to measure the reaction time. Every variable was measured three times, at the time of resting condition, after walking and after practicing yoga. After taking the measure at resting condition the researcher told to the subjects to perform 20 minutes walking. The researcher measured the blood pressure and reaction time immediately after completing the 20 minutes of walking. The subjects were allowed to take few minutes of rest then the practiced 20 minutes of yoga and again the variables were tested.

Correspondence
Nirmalendu Gayen
Researcher Scholar of
Department of Physical
Education, Visva-Bharati,
Santiniketan West Bengal, India

There were 8 different Yoga exercises which were performed by the subjects.

1	Uttanasana-Standing Forward Bend	2 minute
2	Vrikshasana-Tree Pose	2 minute
3	Trikonasana-Triangle Pose	2 minutes
4	Parivrtta Trikonasana-Reverse Triangle Pose	2 minutes
5	Adho Mukha Shvnanasana-Downward Facing Dog	2 minutes
6	Shashankasana-Hare Pose	2 minutes
7	Suryanamaskar-Salute to the Sun	4 minutes
8	Padmasana Pranayama-Deep Breathing in Lotus Pose	4 minutes
Total duration of yoga		20 minutes

Findings

Table 1: (t-test for significance difference in Systolic Blood Pressure between walking and yoga)

	Mean	mean diff	Std Error Difference	t-value	sig level
Walking	137.67	12.67	5.35	2.37	0.03
Yoga	125				

t.05 (df=9) = 2.12 *. significant at 0.05 level

Table 2: (t-test for significance difference in Diastolic Blood Pressure between walking and yoga)

	Mean	Mean diff	Std Error Difference	t-value
Walking	88.44	5.22	3.14	1.66
Yoga	83.22			

t.05 (df=9) = 2.12 *. Not significant at 0.05 level

Table 3: (t-test for significance difference in Reaction time between walking and yoga)

	Mean	Mean diff	Std Error Difference	t-value
Walking	16.71	0.95	0.75	1.27
Yoga	17.66			

t.05 (df=9) = 2.12 *. Not significant at 0.05 level

Result

Significant difference in systolic blood pressure found between yoga and walking. Yoga showed a better reduction in systolic blood pressure. Whereas no significant difference found in diastolic blood pressure. Yoga and walking both showed a better performance in reaction time test compared with control condition but the level was not significant.

Conclusion

From the above study the researcher found that yoga and walking both are beneficial for the health but yoga is better than walking controlling blood pressure whereas walking helps to improve reaction time as well. The combination of 20 minutes of walking and 20 minutes of yoga will be most beneficial for the middle aged people.

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