Vidhyayana - ISSN 2454-8596
An International Multidisciplinary Peer-Reviewed E-Journal
www.j.vidhyayanaejournal.org
Indexed in: ROAD & Google Scholar

Effect of Yoga and its ability on Health and Wellness

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Vidhyayana - ISSN 2454-8596
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Abstract:

The present study was conducted with the objective to determine the integrated therapeutic effect of yoga and its ability on health and wellness. Forty (N=40) female subjects between the age group of 17-28 years (Mean ± SD; height 5.46 ± 0.21m; body mass 57.43± 3.45kg; age17.30± 2.04 years) were selected. The subject was purposively assigned into two groups: Group-A: Experimental (N1=20) and Group-B: Control (N2=20). Student's t-test for independent data was used to assess the between-group differences and for dependent data to assess the Pre-Post differences. Based on the analysis of the obtained, and concluded that the significant between-group differences were found in health related Variables;found Resting Pulse Rate (Num.) (t= 3.60*), Respiratory Rate (Num.) (t=4.03*), Positive Breath Holding (Sec) (t=2.70*) Negative Breath Holding (Sec) (3.07), Systolic Blood Pressure (MMHg) (2.56), Diastolic Blood Pressure (MMHg)(2.82), Maximum Expiratory Pressure (Liters) (2.36) and Body Composition (Mm) (t=2.38*), since the calculated value of t is greater than tabulated value of t (2.09) for the selected degree of freedom and level of significance. No significant changes were noted in the control group.

Keywords: Yoga, Health and Wellness.

Introduction

The physical body that is exposed to the processes of yoga is freed from old age, disease and death.

- Svetasvatara Upanishad

The civilization of India has produced a great variety of systems of spiritual beliefs and practices. Ancient seers used yoga as a means to explore the exterior and interior world and, perhaps, ultimately to achieve wisdom and knowledge of the sacred Indian texts: the Vedas, Upanishads and Shastras[1]. The classical yogic practices of pranayama have been known in India for over 4,000 years. In the Bhagavad Gita, a text dated to the Mahabharata period, the reference to pranayama indicates that the practices were as commonly known during that period as was yajna, fire sacrifice. Many Upanishads written in the pre-Buddhist period also refer to techniques of pranayama (to attain higher states of consciousness).

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योगश्चित्तवृत्तिनिरोधः

Yoga (yogaḥ) is the suppression (nirodhaḥ) of the modifications (vṛtti) of mind. Yoga may be as effective as or better than exercise at improving a variety of health-related outcome measures [2]. Certain yoga asanas, if practiced regularly, are known to have beneficial effects on human body. These yoga practices might be interacting with various somatic and neuro-endocrine mechanisms bringing about therapeutic effects [3]. The overall performance is known to be improved by practicing yoga techniques [4] and their effects on physical functions were reported [5]. Yoga practices can also be used as psycho-physiological stimuli to increase the secretion of melatonin which, in turn, might be responsible for perceived well-being [6].

Materials and Methods

Subjects: The study was employing the method of data collection and analysis quantitatively. The *purposive sampling technique (Figure 1) was used to*attain the objectives of the study [7]. Forty (N=40) female subjects between the age group of 17-28 years (Mean ± SD; height 5.46 ± 0.21m; body mass 57.43± 3.45kg; age17.30± 2.04 years) were selected.

Measurement of Health-related fitness Variables

The following health relatedvariables were measured 3 times with the use of a wet spirometer, the respective average values being used in the analysis: For measuring the Resting Pulse Rate, Respiratory Rate, the stop watches were used. The suppliers, Krishna Watch Company, Mumbai, assured the accurate calibration of their watches. Positive Breath Holding, Negative Breath Holding, Systolic Blood Pressure, Diastolic Blood Pressure.The Wet- Spiro meter used to measureMaximum Expiratory PressureandBody Composition.Thus the instrument reliability was assumed.

The subjects from Group A: Experimental will be subjected to a 6-week yogic training programme and consist of daily sessions, lasting 60 min. each, which include 7 positions: A- Poorna Bhujangasana, B – Baddhapadmasana, C – Kukkut asana, D – Hal asana, E – ArdhaMatsyendrasana, F – Veerasana (Warrior Pose) and G – Kapalbhati (Figure 2).

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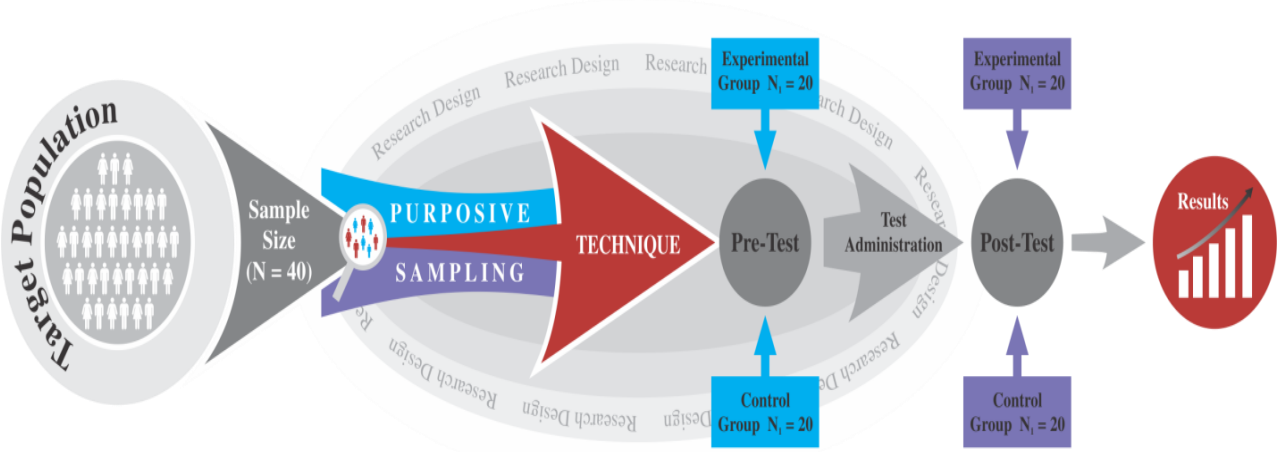

Figure 1: Design of the Study

Statistical Analysis

Student's t-test for independent data was used to assess the between-group differences[7] and for dependent data to assess the Pre-Post differences.

Six (6)-Week Yogic Training Programme

Figure. 2.Yoga Asanas

A – Poorna Bhujangasana
B – Baddhapadmasana
C – Kukkut asana
D – Hal asana
E – ArdhaMatsyendrasana
F–Veerasana(Warrior Pose)
G – Kapalbhati

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Results

The study was conducted to determine the health related fitness of yoga practitioners. The statistical analysis of data collected on Forty (N=40) subjects. For each of the chosen variable, the results pertaining to significant difference, if any, between yoga groups and control group were assessed by "t" test and are presented in tables 1.

Table 1. Mean values (±SD) of health relatedvariables in yoga group and control groups (n = 20 each) before (Pre) and after (Post) 6-weeks of training (Yoga group only).

Variables	Yoga Group			Control Group		
	Pre	Post	't' Value	Pre	Post	't' Value
Resting Pulse Rate (Num.)	60.0	63.8	3.60*	60.0	59.5	0.65
Respiratory Rate (Num.)	160.6	169.3	4.03*	161.8	159.1	0.76
Positive Breath Holding (Sec)	51.2	47.35	2.70*	50.6	48.4	1.40
Negative Breath Holding (Sec)	28.2	33.05	3.07*	29.8	28.3	1.08
Systolic Blood Pressure (MMHg)	110.5	112.8	2.56*	111.6	110.2	1.06
Diastolic Blood Pressure (MMHg)	74.5	76.3	2.82*	75.5	74.7	0.86
Maximum Expiratory Pressure (Liters)	3.67	3.89	2.36*	3.77	3.77	0.03
Body Composition (Mm)	11.46	12.36	2.38*	11.45	12.38	1.27

"t" value to be significant at (19) degree of freedom is 2.09.

The results of health-related fitness in 6-week yoga asana (Y) and control (C) groups are presented in Tables 1. Significant between-group differences were foundResting Pulse Rate (Num.) (t= 3.60*), Respiratory Rate (Num.) (t=4.03*), Positive Breath Holding (Sec) (t=2.70*) Negative Breath Holding (Sec) (3.07),Systolic Blood Pressure (MMHg) (2.56), Diastolic Blood Pressure (MMHg)(2.82), Maximum Expiratory Pressure (Liters) (2.36)and Body Composition (Mm) (t=2.38*) since the calculated value of t is greater than tabulated value of t (2.09) for the selected degree of freedom and level of significance. No significant changes were noted in the control group. The graphical representation of t-value of biomechanical

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parameters in the yoga training (Y) and control (C) groups (n=20 each) of 6 week Yoga Asana training exhibited in figure 3, respectively.

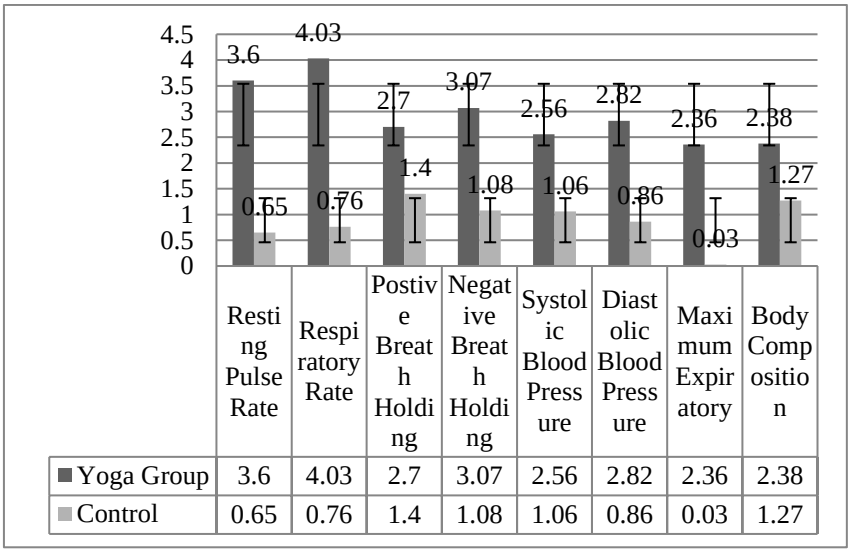

Figure 3. Test statistics t of health related variables in Yoga group and control groups (n = 20 each) before (Pre) and after (Post) 6-weeks of training(Yoga group only).

Discussion

The present study evaluates the health-related fitness of yoga group . India.Medical science and Physiological responses to physical training has done a significant amount of research on the effects of pranayama over the last few decades. It may be expected to positively influence many health related functions, physiological and respiratory indices. Once translated as 'breathing exercises', pranayama is now recognized by scientists throughout the world as a means of invigorating, enhancing and accelerating the revitalizing processes in the body. Studies have been published on pranayama research undertaken in countries such as Australia, Russia, Turkey, Germany, USA, India and others. In a previous study of Yoga, a method of learning that aims to attain the unity of mind, body, and spirit through exercise, breathing and meditation (1,5) that may be expected to positively influence many biochemical functions including respiration. The results of this study showed that yoga training lasting 6 week Significant between-group differences were found Resting Pulse Rate (Num.) (t= 3.60*), Respiratory Rate (Num.) (t=4.03*), Positive Breath Holding (Sec) (t=2.70*) Negative Breath Holding (Sec) (3.07), Systolic Blood Pressure (MMHg)

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(2.56), Diastolic Blood Pressure (MMHg)(2.82), Maximum Expiratory Pressure (Liters) (2.36) and Body Composition (Mm) (t=2.38*) since the calculated value of t is greater than tabulated value of t (2.09) for the selected degree of freedom and level of significance. No significant changes were noted in the control group. The significant importance of these physical performance measures is related to the development of gross motor skills, improved quality of life and social well-being. Sport activities and physical education classes are essential components of a physical and health related fitness development. The study fills a research gap by examining an under studied region of the country and by assessing several components of fitness of yoga practitioners in Guwahati, Assam, India. On the other hand, the result of this study will be helpful to the health department, educational planners, further researchers and teachers etc. in providing awareness about the various ways through which people can maintain good health.

Conclusions

Findings of this exploratory study suggest that the treatment of 6-week of yogic practices training programme showed significant improvement in Resting Pulse Rate, Respiratory Rate, Positive Breath Holding, Negative Breath Holding, Systolic Blood Pressure, Diastolic Blood Pressure, Maximum Expiratory Pressure and Body Composition. As per the study the above remark can be given at 95% confidence.

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