International Journal of Computational Research and Development (IJCRD)
Impact Factor: 4.775, ISSN (Online): 2456 - 3137
(www.dvpublication.com) Volume 2, Issue 2, 2017

EFFECT OF ISOLATED AND COMBINED PRACTICE OF NATUROPATHY AND YOGASANA ON RESPIRATORY RATE IN MENSTRUAL IRREGULARITY WOMEN

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Cite This Article: Dr. Rukmani, "Effect of Isolated and Combined Practice of Naturopathy and Yogasana on Respiratory Rate in Menstrual Irregularity Women", International Journal of Computational Research and Development, Volume 2, Issue 2, Page Number 129-132, 2017.

Abstract:

The purpose of the study was to find out effect of isolated and combined practice of naturopathy and yogasana on respiratory rate in menstrual irregularity women. The study was conducted on 60 menstrual irregularity women. Totally four groups, namely, control & experimental group I, II & III consisting or 15 menstrual irregularity women underwent twelve weeks practice in naturopathy, yogasanas and combined practices whereas the control group did not undergo any type of training. The Respiratory rate was measured before and after the experimentation using the standardized test (Standard Laboratory test) to measure the Haemoglobin analyzed by Analysis of Covariance (ANCOVA) and it was concluded that the naturopathy, yogasanas and combined practices had significant ($P < 0.05$) effect on the Haemoglobin level.

Key words: Naturopathy, Yogasanas and Combined Practices & Respiratory Rate.

Introduction:

The health status is usually measured in terms of life expectancy at birth, infant mortality rate, fertility rate, crude birth rate and crude death rate. These indicators of health are determined by numerous factors such as per capita income, nutrition, housing, sanitation, safe drinking water, social infrastructure, health and medical care services provided by government, geographical climate, employment status, incidence of poverty and the like (Reddy and Selvaraju 1994, Dadibhavi and Bagalkoti 1994). It is a well-known fact that India is, next only to China, the second largest country in terms of population in the world. But the health status of a great majority of the people is far from satisfactory as compared to China and other developed countries. However, over the last five decades or so, India has built up health infrastructure and manpower at primary, secondary and tertiary care in government, voluntary and private sectors and made considerable progress in improving the health of its population (Ray 2003, Bhat and Babu 2004).

The menstrual cycle is the cycle of natural changes that occurs in the uterus and ovary as an essential part of making reproduction possible. Its timing is governed by endogenous (internal) biological cycles. The menstrual cycle is essential for the production of eggs, and for the preparation of the uterus for pregnancy. The cycle occurs only in fertile female humans and other female primates. A menstrual disorder is an irregular condition in a woman's menstrual cycle. Anything that interferes with the normal menstrual cycle, causing pain, unusually heavy or light bleeding, or missed periods. Typically, a woman of childbearing age should menstruate every 28 days or so unless she's pregnant or moving into menopause. But numerous things can wrong with the normal menstrual cycle, some the result of physical causes, others emotional. These include amenorrhea, or the cessation of menstruation, menorrhagia, or heavy bleeding, and dysmenorrhea, or severe menstrual cramps.

Yoga can be a meaningful and enjoyable alternative to traditional forms of exercise such as aerobics or aquatic exercise with important health benefits. Yoga can play an important and effective role in controlling diabetes and increasing positive feelings and wellbeing. Naturopathy can be termed as the science of living. It believes or describes human beings as the epitome of Universe. Accordingly visualizing self in the universe, and the universe in the self, represents the most evolved state of man. Naturopathy believes in this holistic approach of health, which can be achieved by following the laws of nature (Physical Health), Rules of good conduct (Mental/ Social Health) and developing a philosophical attitude and practicing meditation and Yoga (Spiritual Health). Naturopathy believes that unless there is harmony between body, mind and spirit, one cannot enjoy healthy life. Naturopathy is a system of medicine aimed to diagnose and treat any human ailment, pain and injury through the use of natural elements - Space, Air, Fire, Water and Earth. Naturopathic Medicine is a natural approach to health and healing that recognizes the integrity of the whole person. Naturopathy is a system of Medicine represents the "vitalistic" tradition of medicine in our Western world. That is, it treats disease through the stimulation, increase, and support of the person's inherent healing capacity. These treatments are chosen to work with the patient's vital force, respecting the natural healing processes of nature. Naturopathic medicine treats health conditions by utilizing the body's inherent ability to heal. This is a very safe, natural therapy which utilizes the services of several different alternative medicine techniques to heal prospective patients

Purpose of the Study:

The present study was designed to find out the effect of isolated and combined practice of naturopathy and yogasana on respiratory rate in menstrual irregularity women.

Review of Literature:

Gore, M.M. (2001) conducted the study of "Physiological response on six students of yoga" who recited Aum for 10 times in low pitch (LAUM) and high pitch (HAUM) on separate days, the polygraph recording was done before during and after Aum recitation. It was revealed that during HAUM heart rate eye movements and chin muscle activity increased significantly, reduced eye movements , Blood pressure and heart rate during LAUM was not significant, Although the relaxation after both types of recitation was similar as judged through Heart rate, Respiration rate and blood pressure, subjects reported better feeling of relaxation after LAUM.

Blank SE. (2006) conducted a "Study with the aim to evaluate acute physiological responses to Hatha yoga asanas (poses) practiced in the Iyengar tradition." Preliminary data were collected on the impact of postural alignment on physiological responses. Intermediate/advanced level yoga practitioners (n=15 females) were monitored for respiratory rate, oxygen uptake (VO_2), and brachial arterial blood pressure (n = 9) during a 90 min practice. The subjects, aged 43.5 ± 6.9 yr , had current weekly practice of 6.2 ± 2.4 hr/week and practice history 9.2 ± 7.2 yr. Physical characteristics of the subjects included: height body mass and percent body fat. The practice included supine, seated, standing, inversions, and pushes up to back arch asanas maintained for 1-5 min. Physiological responses were significantly greater in standing asanas, inversions, and push up to back arch versus supine and seated asanas. However, postural alignment significantly influenced respiratory rate, blood pressure responses indicating that adherence to precise alignment has relevant physiological consequences for the yoga practitioner.

Johnson Premkumar and Mariayyah (2006) analyzed the effect of selected yogic practices and physical exercises in amplifying the cardio respiratory endurance among the residential male college students. With the assistance and help of the experts in the field of yoga, sports and previous researches on these areas, a comprehensive and suitable yoga package and a physical exercise package was evolved. Sixty residential male college students were selected at random and divided into three groups of twenty each namely, Group A, Group B and group C. The first two groups are experimental groups and the third group is a control group. The experimental group A underwent a designed yogic practices training for three months and similarly the group B was treated with designed physical exercises. The control group (group C) did not undergo any special training. The status of cardio respiratory endurance of all the groups was measured through Cooper's 12 Minutes run/walk test and was recorded as initial scores. The same test was administered after three months of specific training and was recorded as the post test. The obtained pre test and post test were analysed by using Analysis of Covariance for significant improvements. Post- hoc test was applied to find out the better group among the three. The designed training package was suitable and made positive training impacts on cardio respiratory endurance among the subjects at various levels

Methodology:

For the present study 60 menstrual irregularity women aged between 18 – 25 years were selected as the subjects from Chidambaram. All the subjects were assigned to Experimental group I underwent naturopathy practices, Experimental group II underwent yogasanas practices, Experimental group III underwent combined practices (naturopathy with yogasanas), each consisting 15 subjects. The experimental groups practiced the above weekly six days for a period of twelve weeks. The naturopathy practices given to the experimental group – I were included hip bath, cold abdomen compress and cold abdomen mud pack and Yogic practices given to the experimental group-II were included Suryanamaskar, Sarvangasana, Halasana, Matsyasna, Naukasana, Bhujangasana, Yogamudras, Paschimottanasana, salabasana, Dhanurasana, Pawanamukthasana, Ardhamatsyendrasana, Savasana and deep relaxation. Experimental Group-III was included combined practices (yogasanas & naturopathy). The physiological variable is Respiratory rate was measured by Digital Stop Watch.

Results and Discussions:

The data pertaining to the variables collected from the four groups before and after the training period were statistically analyzed by using Analysis of Covariance (ANCOVA) to determine the significant difference and tested at 0.05 level of significance. The following tables illustrate the statistical result of the effect of isolated and combined practice of naturopathy and yogasana on selected physiological variable of Respiratory rate.

Table 1: Computation of Analysis of Covariance of Pre-Test, Posttest and Adjusted Post-Test on Respiratory Rate of Isolated and Combined Practice of Naturopathy and Yogasana and Control Groups

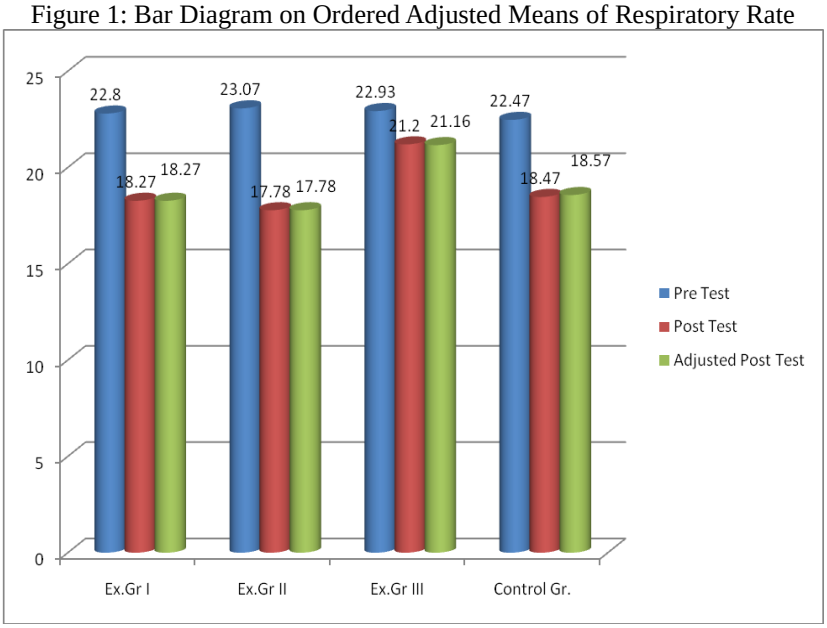
	Ex. Gr. I	Ex. Gr. II	Ex. Gr. III	Control	Source of Variance	Sum of Squares	df	Mean Squares	Obtained F
Pre Test Mean	22.8	23.07	22.93	22.47	Between	2.98	3	0.99	0.16
					Within	356.00	56	6.36	
Post Test Mean	18.27	17.87	21.2	18.47	Between	104.05	3	34.68	10.29*
					Within	188.80	56	3.37	
Adjusted Post Test Mean	18.27	17.78	21.16	18.57	Between	102.70	3	34.23	12.36*
					Within	152.38	55	2.77	
Mean Diff	4.5	5.2	1.73	4					

*Significant Table F-ratio at 0.05 level of confidence for 3 and 56(df) =2.77, 3 and 55(df) =2.78.

Table 2: Ordered Adjusted Respiratory Rate Means, Differences between Means and Scheffe's Post-Hoc Test F-Ratio of Isolated and Combined Practice of Naturopathy and Yogasana and Control Groups

Experimental Group – I (Naturopath)	Experimental Group – II (Yogasana)	Experimental Group – III (Combined)	Control Group	Mean Difference	Required C.I
18.58	18.27	-	-	0.31	1.74
18.58	-	17.79		0.79	1.74
18.58			21.16	2.58*	1.74
	18.27	17.79		0.48	1.74
	18.27		21.16	2.89*	1.74
		17.79	21.16	3.37*	1.74

Figure 1: Bar Diagram on Ordered Adjusted Means of Respiratory Rate



Results of Respiratory Rate:

The analysis of covariance of Respiratory rate data between pre-test and post-test of the four groups have been presented in Table I. Table I shows the analysis of covariance of Respiratory rate. The pre-test means of naturopathy training group, yogasana group, combined training group and control group were 22.8, 23.07, 22.93 and 22.47 respectively. Since the obtained F-ratio of 0.16 is lower than the table value, F-ratio of 2.77, the pre-test means were not significant at 0.05 level of confidence with the degrees of freedom 3 and 56. The post test means of naturopathy training group, yogasana group, combined training group and control group were 18.27, 17.87, 21.2 and 18.47 respectively. The obtained F-ratio of 10.29 is seen to be higher than the table F-ratio of 2.77. Hence, the differences among the post-test means were significant at 0.05 level of confidence with degrees of freedom 3 and 56. The adjusted post-test means of naturopathy training group, yogasana group, combined training group and control group were 18.27, 17.78, 21.16 and 18.57 respectively. Since the obtained F-ratio of 12.36 is higher than the table F-ratio of 2.78 the adjusted post-test mean difference amount the three groups were significant at 0.05 level of confidence with the degrees of freedom 3 and 55. Scheffe's post-hoc test was resorted-to, to find out the significance of ordered adjusted final means difference among the groups. Table II shows the Scheffe's post-hoc test results. The ordered adjusted Hemoglobin means, differences between means and Scheffe's Post Hoc test F-ratio of naturopathy training group, yogasanas group, combined training group and control group were tested for significance against Scheffe's post-hoc test F ratio.

Conclusion:

Based on the results obtained, the following conclusion was drawn: It was concluded that Naturopathy (Group-I), Yogasanas (Group – II) and Combined (naturopathy and yogasanas) was effective than the control group (Group – IV) in reducing physiological variable – respiratory rate among Menstrual irregularity women. It was concluded that Combined group (naturopathy and yogasanas) (Group – III) was slightly effective than the Naturopathy (Group-I), Yogasanas (Group – II) in decreasing the physiological variable like respiratory rate among Menstrual irregularity women.

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