ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

Effect of Static and Dynamic Hatha Yoga Sadhana on Pubertal Development Dimension among Preteen Girls

R. Kalpana[1] & Dr. S Thirumalaikumar[2]

[1]*Research Scholar, Department of Yoga, Tamilnadu Physical Education & Sports University, Chennai, Tamilnadu, India.*
[2]*Associate Professor, Tamilnadu Physical Education & Sports University, Chennai, Tamilnadu, India.*

Received 8th August 2015, Accepted 15th October 2015

Abstract

The purpose of the Present study was to find out the effect of static and dynamic hatha yoga sadhana on selected pubertal development dimension among preteen girls .The study was conducted on 90 pubertal development pre-teen girls. Totally three groups, namely, control & experimental group I & II, consisting or 30 pubertal development pre-teen girls underwent eight weeks practice in static and dynamic training whereas the control group did not under go any type of training. The stress level was measured before and after the experimentation using the standardized test to measure the pubertal development. The data were analyzed by Analysis of Covariance (ANCOVA) and it was concluded that the static and dynamic training had significant (P < 0.05) effect on the pubertal development level.

Keywords: Static, Dynamic, Pubertal development, FSH.

Introduction

Puberty refers to the transition in life from being a girl into becoming a woman. It marks the inception of sexual maturity and a body which is capable of reproduction, marked by changes like breast development and menstruation. Girls attain reproductive maturity four years after the first physical changes of puberty appear. Between the ages of 10 and 14 most boys and girls begin to notice changes taking place in their bodies. These changes, which occur over a number of years, are generally referred to as puberty. The changes take place in all boys and girls but they will start at different times and take place at different rates. Not everyone starts puberty between the ages of 10 and 14, some people start younger, and some much later. Similarly, in some people all the changes take place in two years, and in others they can take as long as four years. Generally they start between ages 7 and 13 in girls and ages 9 and 15 in boys.Puberty starts when extra amounts of chemicals called hormones start to be produced in the body. These hormones guide the changes that take place in the body. As well as causing physical changes these hormones also cause emotional changes. Puberty starts when extra amounts of chemicals called hormones are produced in the body. In girls, a hormone called oestrogen guides the changes that take place in the body. Yoga is an ancient Indian practice that aims at rehabilitating and reinforcing a balance between the body, mind, and spirit. Used as a complementary practice alongside allopathic treatment, it can help individual's cope and live with muscular dystrophy. Incorporating Static and Dynamics of yoga practices can help ease the conditions of muscular dystrophy and greatly improve the quality of life. Muscular dystrophy yoga uses a series of gentle and easy movements in combination with deep breathing techniques to improve muscle tone and reduce pain.

Correspondence
R.Kalpana,
E-mail: mearekalpana@gmail.com, Ph: +9189395 49100

Methodology

The purpose of the study was to find out effect of static and dynamic hatha yoga sadhana on pubertal development dimension among preteen girls. For the purpose of the study ninety preteen girls were chosen on random basis from Chennai only. Their age group ranges from 10 to 14. The subjects were divided into three group of thirty. The experimental group I would undergo static hatha yoga and the experimental group II undergo dynamic hatha yoga and third group consider as control group not attend any practices, and the pre teat and post tests would be conducted before and after the training. Training would be given for eight weeks. It would be found out finally the effect of static and dynamic training on pubertal development among preteen girls in scientific method. To estimate and measuring lab test. The collected data were statistically analyzed by using analysis of covariance (ANCOVA).

Training Schedule

Experimental Group I: Static Hatha Yoga Practices

1. Mantra chanting
2. Pavanamuktasanas I
3. Utkatasana
4. Trikonasna
5. Ardhachakrasana
6. Ekapadasana
7. Halasana
8. Bujangasana
9. Salabhasana
10. Dhanurasana
11. Santhiasana
12. Pranayama
13. Yoga nidra

Experimental Group II: Dynamic training

1. Mantra chanting
2. Suryanamaskar
3. Chandranamaskar
4. Yoga nidhra
5. Pranayama

Group III: Control Group (No Training).

Result And Discussion

The Pubertal development dimension variable FSH (Follicle stimulating hormone) was measured through Blood test. The result on the effect of static and dynamic hatha yoga sadhana on selected socio environmental and pubertal development dimension among preteen girls is presented in Table - I.

.

Table I. Computation of analysis of covariance for pre and post – tests data on FSH (follicle stimulating hormone) of experimental and control groups

	Static Hatha Yoga Sadhana Group	Dynamic Hatha Yoga Sadhana Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained F
Pre Test Mean	9.08	8.67	9.77	**Between**	6.18	2	3.09	1.03
				Within	80.87	27	2.99	
Post Test Mean	7.25	5.98	9.87	**Between**	78.69	2	39.34	**18.03***
				Within	58.92	27	2.18	
Adjusted Post Test Mean	7.25	6	9.84	**Between**	71.28	2	35.64	**15.77***
				Within	58.75	26	2.25	
Mean Diff	1.83	2.69	0.1					

*Significant at 0.05 level Table F-ratio at 0.05 level of confidence for 2 and 27 (df) =3.35, 2 and 26(df) = 3.37

Table-I shows that the pre test mean scores of FSH (Follicle stimulating hormone) of Experimental group I – Static hatha yogic sadhana was 9.06, Experimental group II – Dynamic hatha yogic sadhana was 8.67, Control group III was 9.77. The post test means showed differences due to fifteen weeks of Static hatha yogic sadhana, Dynamic hatha yogic sadhana and Control group mean values recorded were 7.25, 5.98 and 9.87 respectively. The obtained F value on pre test scores 1.03 was lesser than the required F value of 3.35 to be significant at 0.05 level. This proved that there was no significant difference between the groups at initial stage and the randomization at the initial stage was equal. The post test scores analysis proved that there was significant difference between the groups as the obtained F value at 18.03 was greater than the required F value at 3.35. This proved that the differences between the post test mean at the subjects were significant.

Taking into consideration the pre and post test scores among the groups, adjusted mean scores were calculated and subjected to statistical treatment. The obtained F value at 15.77 was greater than the required F value at 3.37. This proved that there was a significant difference among the means due to fifteen weeks of Static hatha yogic sadhana and Dynamic hatha yogic sadhana on the FSH (Follicle stimulating hormone). Since significant improvement were recorded. The results were subjected to post hoc analysis using

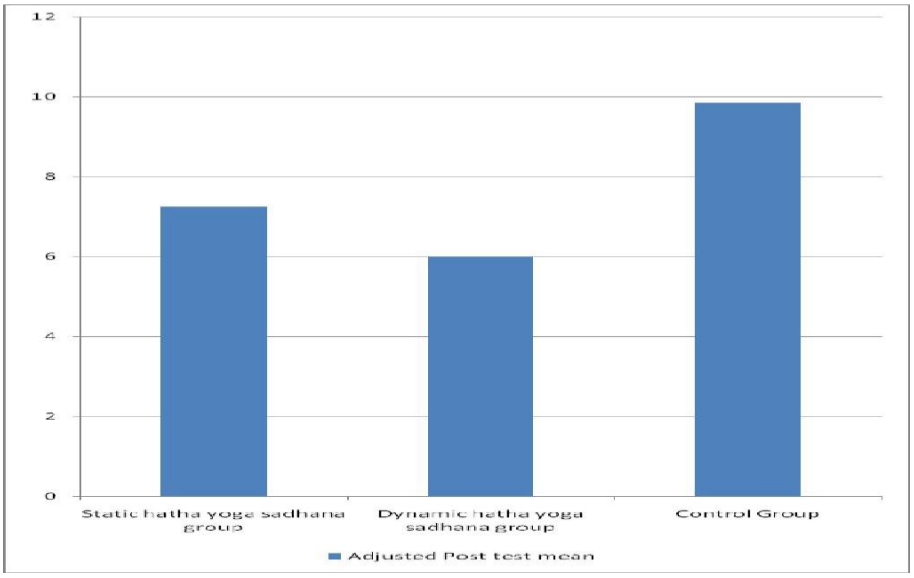
Scheffe`s Confidence Interval test. The results were presented in Table-II.

Table II. Scheffe's test for the differences between the adjusted post – test paired means of FSH (follicle stimulating hormone)

Experimental Group – I (Static Hatha yogic sadhana**)**	**Experimental Group – II** (Dynamic Hatha yogic sadhana**)**	**Control Group III**	**Mean difference**	**Required C.I**
.25	--	9.84	2.59*	1.75
--	6.00	9.84	3.84*	1.75
7.25	6.00	--	1.25	1.75

Table –II shows that there was significant difference between Static hatha yogic sadhana and control group and Dynamic hatha yogic sadhana group and control group. The obtained adjusted mean values were presented through bar diagram in Figure -1

Figure 1. Bar diagram showing the mean values of experimental groups I, II and control group on FSH (follicle stimulating hormone)



The results presented showed that the obtained adjusted means on FSH (Follicle stimulating hormone) among Static hatha yoga sadhana group was 7.25 followed by Dynamic hatha yoga sadhana group with the mean value of 6.00 and control group mean value of 9.84. The difference among pre test scores Post test scores and adjusted mean scores of the subjects were statistically treated using ANCOVA and F values obtained were 1.03, 18.03 and 15.77 respectively. It was found that obtained F value on pre test score was not significant at 0.05 level of confidence as the obtained value was lesser than the required table value and post test scores was significant at 0.05 level of confidence as the value was greater than the required table F value of 3.35. The post hoc analysis through Scheffe`s confidence test proved that due to fifteen weeks treatment the Static hatha yoga sadhana and Dynamic hatha yoga sadhana there was significant improvement in FSH (Follicle stimulating hormone) than control group and the differences were significant at 0.05 level. The post hoc analysis between the experimental group namely Static hatha yoga sadhana and Dynamic hatha yoga sadhana proved that there was significant difference.

Conclusion

The analysis of co-variance of Pubertal development indicated that experimental group I (static Training), experimental group II (dynamic Practices), and group III (Control group), were significantly improved the FSH level. It may be due to the effect of static and dynamic Training. The findings of the study showed that the experimental group II (dynamic) had

improvement FSH level more than the experimental group I (static Training). Nearly everything in life requires balance. Static and dynamic Training on its own is a good step toward a healthy life style. However, as individual, it is important to malaise that we need to work on our body as well as our mind. We can use static and dynamic Training not only as part of a program to improve pubertal development of FSH level, but also as a way to assist in attaining other goals.

References

1. Dr. Kerstin Albertson June 13, 1996.Effect of Circadian Cortisol Rhythms in Healthy Boys and Girls**"** unpublished master's thesis Wikland, University of Goteborg, Department of Pediatrics Sweden.
2. Kathleen Doheny (Aug. 9, 2010) Study of Girls Entering Puberty Earlier, The findings, to be published Sept. 17 in the *Journal of Adolescent Health*, study led by researchers at the University of California, Berkeley's School of Public Health.