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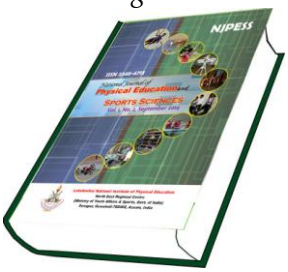

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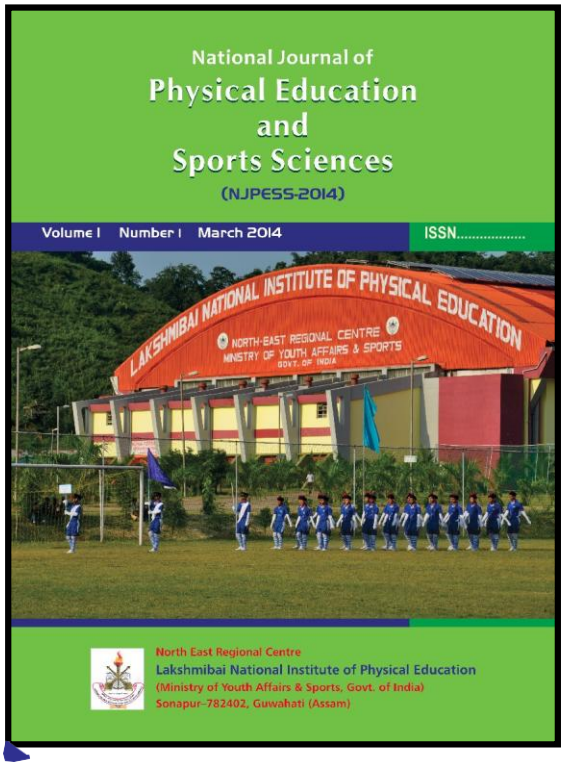
Editorial

Epicenter Voyage of a Myth Institute-Lakshmibai National Institute of Physical Education
North East Regional Center

Lakshmibai National Institute of Physical Education, NERCis amongst the most admired centers of world-class education to foster academic excellence, physical fitness and research in sports committed to helping scholars, researchers and sports scientist leap into the 21st century. The present endeavor is a tribute to the holy symbol of Lakshmibai National Institute of Physical Education, NERC as the same was long precious aspiration. The journal shall symbolically signify the essence of quality research thereby appropriate in the ambition of the institute. The journal shall offer a much desired platform to publish quality research being undertaken in the whole world on the area in question. The journal shall bring the academicians and researchers from all over the globe to share their accumulated experiences and perceptions in order to realize new scientific and original innovation focused on aspects of the sports sciences and sports performance.

Prof. Shankar Basumatary
Editor-in-Chief



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Content

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A Comparative Study of Badminton and Squash Players of Values at School Level Children

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Abstract

To compare badminton and squash players of values at school level children. The sample of the study 200 Badminton and Squash boys players i.e. Badminton (N=100) & Squash (N=100) of Schools boys children of Anand District, Gujarat. Random sampling technique was adopted to select the sample of the study. **Personal Values Questionnaire by Dr. (Mrs.) G.P.Sherry and Dr.R.P. Varma has been used for collecting data**. Age group ranged from 14-16years. There is no significance difference in the Religious values, Social values, Democratic values Aesthetic values and Economic values, of badminton and squash players.

Introduction

Students play the most important role in education. They are said to be the builders of a nation. A student is the central log in the machinery of education. The quality and worth of Student determines the quality of education teaching facilitates learning. Learning is a complex phenomenon that has been explained differently. Education in its holistic approach serves much purpose. It enables to stretch his potentialities for welfare of self, family and society. Education enthuses the individual with responsibility of developing and sustaining a just socioeconomic system, conserving and The Students of 21st century should remember that the student of today will shape the new tomorrow and the values we inculcate in them today will show the future of our world. The Students must be equipped with the knowledge and skills. They radiate ethical values as much through who say as through what he is.

"Values are not taught caught." Today we want ethical values oriented Students education, to mould the prospective Student to become well versed with, who can in turn change the whole world of tomorrow. Only such Students can bring a desirable change among the children.

Methodology

- **Objective of the Study:** To compare badminton and squash players of values at school level children.

Hypothesis

- There is no significance difference in the Religious values of badmintons and squash players.
- There is no significance difference in the Social values of badmintons and squash players.
- There is no significance difference in the Democratic values of badmintons and squash players.
- There is no significance difference in the Aesthetic values of badmintons and squash players.
- There is no significance difference in the Economic values of badmintons and squash players.

Subjects

The sample of the study 200 Badminton and Squash boys players i.e. Badminton (N=100) & Squash (N=100) of schools boys children of Anand District, Gujarat. Random sampling technique was adopted to select the sample of the study. **Personal Values Questionnaire by Dr. (Mrs.) G.P.Sherry and Dr.R.P. Varma has been used for collecting data**. Age group ranged from 14-16years.

Statistical Technique

Descriptive statistics was used to process the data prior to employing inferential statistics. T-test was used to compare badminton and squash players of values at school level children. Level of significance was set at 0.05.

Findings

Table - 1 - Comparison of Mean Score of Religious Values between Badminton and Squash Players

S.n.	Dimensions	Badminton		Squash		T -Values
1	Religious Values	Mean	S. D.	Mean	S. D.	
		11.14	2.90	11.08	2.86	0.14

Table indicates the means, S.D. and t value of badminton and squash players on religious values awareness. Badminton players mean is 11.14, S.D. is 2.90 and t value is 0.14. Squash players mean is 11.08, S.D. is 2.86 and t value is 0.14 at 0.05 levels. This is not significant. There is no significance difference in the Religious values of badminton and squash players. Therefore the null hypothesis is accepted.

Table - 2 - Comparison of Mean Score of Social Values between Badminton and Squash Players

S.n.	Dimensions	Badminton		Squash		T -Values
2	Social Values	Mean	S. D.	Mean	S. D.	
		13.72	2.85	11.56	2.65	0.17

Table indicates the means, S.D. and t value of badminton and Squash players on social values awareness. Badminton players mean is 13.72, S.D. is 2.85 and t value is 0.17. Squash players mean is 11.56, S.D. is 2.65 and t value is 0.17 at 0.05 levels. This is not significant. There is no significance difference in the social values of badminton and Squash players. Therefore the null hypothesis is accepted.

Table - 3 - Comparison of Mean Score of Democratic Values between Badminton and Squash Players

S.n.	Dimensions	Badminton		Squash		T -Values
3	Democratic Values	Mean	S. D.	Mean	S. D.	
		15.25	2.80	14.55	3.40	2.35

Table indicates the means, S.D. and t value of Badminton and Squash players on Democratic values awareness. Badminton Players mean is 15.25, S.D. is 2.80 and t value is 2.35. Squash players mean is 14.55, S.D. is 3.40 and t value is 2.35 at 0.05 levels. This is significant. There is no significance difference in the Democratic values of badminton and Squash players. Therefore the null hypothesis is not accepted.

Table - 4 - Comparison of Mean Score of Aesthetic values between Badminton and Squash Players

S.n.	Dimensions	Badminton		Squash		T -Values
4	Aesthetic Values	Mean	S. D.	Mean	S. D.	
		13.05	3.15	11.10	2.95	2.00

Table indicates the means, S.D. and t value of badminton and Squash players on Aesthetic values awareness. Badminton players mean is 13.05, S.D. is 3.15 and t value is 2.00. Squash players mean is 11.10, S.D. is 2.95 and t value is 2.00 at 0.05 levels. This is not significant. There is no significance difference in the Aesthetic values of badminton and Squash players. Therefore the null hypothesis is accepted.

Table - 5 - Comparison of Mean Score of Economic Values between Badminton and Squash Players

S.n.	Dimensions	Badminton		Squash		T -Values
5	Economic Values	Mean	S. D.	Mean	S. D.	
		10.40	3.60	12.60	3.95	1.72

Table indicates the means, S.D. and t value of badminton and Squash players on Economic values awareness. Badminton players mean is 10.40, S.D. is 3.60 and t value is 1.72. Squash players mean is 12.60, S.D. is 3.60 and t value is 1.72 at 0.05 levels. This is not significant. There is no significance difference in the Economic values of badminton and Squash players. Therefore the null hypothesis is accepted.

Conclusion

- There is no significance difference in the Religious values of badminton and squash players.
- There is no significance difference in the social values of badminton and Squash players.
- There is no significance difference in the Democratic values of badminton and Squash players.
- There is no significance difference in the Aesthetic values of badminton and Squash players.
- There is no significance difference in the Economic values of badminton and Squash players.

Reference

- Allport, Vernon and Lindzey (1960). Study of Values, 3rd ed. Houghton MifflinCo. Boston.
- Bhambri, N and Dr. Singh, R.D (1999). Impact of mechanization on teacher's values of primary school Teachers, The Progress of Education Vol. 73.
- Buch, M.B; (1983), Four Survey of research in Education Vo-ll, NCERT, New Delhi.
- Kaul, Lokesh; (1999), Methodology of education Research, Vikas Publication, New Delhi.
- NCERT (2007): Sixth survey of Educational Research 1993-2000. VoII, National Council of Educational Research & Training, New delhi, PP 313-314
- Parker, D. H; (1957). Philosophy of Value, University of Michigan Press.
- Sherry, G. P. and Verma, R.P. (1971); personal values questionnaire. National Psychological Corporation, Agra.

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Comparative Effect of Three Variation of Weight Training on Body Composition

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Abstract

The purpose of the study was to understand the effect of various training intensities on selected variables of body composition of male under- graduate students . Fourty male undergraduate participants were categorized into three experimental group with different training programs and a control group. The age of the subjects ranged between 18-21 years. The subjects were explained about the objectives of the study. The data was obtained from Lakshmibai National Institute of Physical Education, North East Regional Centre, Guwahati. On the basis of available literature in Exercise Physiology and Body composition the following variables were selected for the study. The purpose of the study was further extended to find out the differences or to compare different training programs on body compositions. With regard to this purpose of the study statistical technique of ANCOVA and Least Significant Difference Post Hoc test was applied to find out adjusted mean difference . Level of significance was fixed at 0.05 .

For body composition variable analysis it was found that there were significant differences for Fat free mass and Fat mass between all three training groups compared to control group. But insignificant difference differences were found for Extracellular fluid and Intracellular fluid between all three training groups.

Introduction

According to Medicina sportive, a journal of Romanian sports medicine society, the assessment of body composition is an essential measure of health and fitness both for athletes and the general population. The body composition is a factor contributing to the sports performance. The body varies with age and sex and the desirable body composition of athletes can vary depending on the sport, training level and energy intake. At non- athletes, the assessment of body composition is important in order to appreciate the nutritional status and monitoring the treatment. The assessment of human body composition

has played an important role in the determination of nutritional status in clinical and metabolic settings as well as an indicator of muscle mass in professional and amateur sports. For a variety of reasons, body fat analysis is a very popular practice in contemporary Western culture. People want to be fit and know the status of their fitness. Professional and amateur athletes care about body fat for aesthetic and health reasons and perhaps, most importantly, to gain a competitive edge. Athletes often try to achieve a certain level of body fat, depending on the demands of the sport (Nash, 1985). Athletes may use unsafe practices, such as very low calorie dieting, high protein diets, or diuretics to obtain desired weight. These practices lead to an increased risk of losing lean body mass rather than fat mass. Precise body fat measurements could help prevent unsafe weight control methods. Precise body fat measurements are also needed by physicians. Physicians are able to administer more exact drug and anesthetic doses to patients when a patient's body composition is known. The average elderly patient uses 1 more than twice as many medications as the average young adult, placing the elderly at risk of increased drug- nutrient interactions (Tramposch & Blue, 1987).

Assessment of body composition is an important component of an ongoing monitoring of athletes interested to improve their performance. All fitness components depend on body composition to some extent. An increase in lean body-mass contributes to strength and power development. Increase in lean body mass enables the athletes to generate more force in a specific period of time. Ostojic and zivanic (2001) reported that in elite Serbian soccer players the main improvement in the sprint times were associated with reduction in Body fat percentage. As body fat content decreased during the session, players become faster.

Methodology

The purpose of the study was to compare the effect of three variation of weight training on body compositions on male athlete of LNIPE NERC. A total of 40 males (N=40) served as subjects for this study.They were divided into 4 groups, comprising of 10 subjects each. They were categorized in four different groups (i.e submaximal, maximal, supramaximal and controlled group) and were selected randomly through simple random sampling method. All the subjects were between the age of 18to21 and were in the first year of undergraduate programmes. Individuals participated on a volunteer basis only.

Subjects

A total of 40 males (N=40) served as subjects for this study.They were divided into 4 groups, comprising of 10 subjects each. They were categorized in four different groups (i.e submaximal, maximal, supramaximal and controlled group) and were selected randomly through simple random sampling method. All the subjects were between the age of 18to21 and were in the first year of undergraduate programmes. Individuals participated on a volunteer basis only.

Collection of Ddata

Weight

- **Instrument:** Calibrated Electronic Weighing Machine
- **Method:** This equipment is completely electrical operate. The test giving subjects must wear minimum clothes so that correct weight can be obtained. The subjects were asked to stand on the platform of the weighing machine keeping balance on both the legs.
- **Score:** Weight was measured in Kg.

Height

- **Instrument:** Stadiometer
- **Method:** This equipment measures an individual height manually. The test giving subjects must stand on floor keeping their feets closed to each other.
- **Score :** Height was measured in cm

Body Composition

- **Instrument:** BIOSCAN, Bio-electrical impedance.
- **Method:** This equipment is completely electrical operated. The test giving subject shall have to enter primary details such as age, height and weight. The score of the relevant data was obtained by a print out from the machine. The obtained score was taken into consideration of Fat Free Mass (FFM), Fat Mass (FM), Extra-cellular water (ECW) and Intra- cellular water (ICW).
- **Note:** Complete information was taken about the students and necessary information was given to the test giving subjects before conducting the test. Micro currents were created by Biological electrical current which pass through whole body. The current can pass through blood, bones and veins. The current cannot pass through fats and it diverts the current. The current travels into whole body and come back and the result is seen in form of Fat Free Mass (FFM), Fat Mass (FM), Extra-cellular water (ECW) and Intra-cellular water (ICW).

Table 1

Criterion Measures

Sr NO.	Item	Equipment/Test	Measuring unit
1	Fat free mass	Bio-electrical impedance machine	Kg
2	Fat mass	Bio-electrical impedance machine	Kg
3	Extra -cellular fluid	Bio-electrical impedance machine	Lt
4	Intra-cellular fluid	Bio-electrical impedance machine	Lt

Bioelectrical impedance analysis involves the passing of a small electrical current through the body and measuring the resistance offered. This current is resisted or impeded to a different extent depending on the type of tissue, thereby differentiating between BFM and FFM. Validity of BIA measurement of adiposity using DXA as the criterion reference method has been examined. In adults age 18 to 29 years, multi frequency segmental BIA was found to underestimate the percentage of body fat in men and woman compared with DXA .Most discrepancies tended to occur outside the normal body fat ranges (15%-25% in men ,25% in woman). Therefore, the use of BIA in clinical practice may be considered less accurate in fat obese or low-fat athletic populations. Bio electrical impedance analysis has been commercially available since the mid -1980s , with most advanced models now claiming accuracy and precision due to a higher spectrum of frequencies ,standardized positioning and contact with electrodes and segmental analysis of the arms ,legs and trunk . As a noninvasive, portable technology , BIA has appeal and accessibility to both patients clinicians. Potential error in BIA is primary due to deviation from a normal , or hydrated ,state and /or electrolyte imbalance that effects tissue impedance . common to all procedures , strict adherence to pretest protocols is important to ensure that the most accurate measurement is achieved.

Administration of the Test

The tetra polar method was used to minimize contact impedance or skin-electrode interaction (Nyboer, 1970). Subjects were instructed to refrain from food for 5 hours, ingest no alcohol for 24 hours, and avoid exercise for 12 hours. Subjects remained clothed but without shoes or socks. All subjects were placed in a supine position on a mat, with limbs away from the trunk. Two aluminum foil surface electrodes were placed on the dorsal surfaces of the right hand at the distal metacarpals and two electrodes were placed on the right foot at the distal metatarsals. Specifically, detector electrodes were applied at the right pisiform prominence of the wrist and between the medial and lateral malleoli at the ankle. A current of 800 microamperes at 50 kilohertz was introduced into the subjects at the distal electrodes of the hand and foot and the voltage drop was detected by the proximal electrodes. Determinations of resistance and reactance were measured using electrodes placed on the ipsilateral and contralateral sides of the body. The lowest resistance value for an individual was used to calculate conductance and to predict fat-free mass (Lukaski,1987). A

Model BIA 101, RJL System was used. All measurements were collected according to standard procedures for BIA.

Table 2

Training Schedule Monday Tuesday Wednesday Thursday Friday Saturday

Week 1st	Maximal	Supra-	Maximal	Supra-	Maximal	Supra-
	(100%)	maximal	(100%)	maximal	(100%)	maximal
	Sub-maximal	(110%)	Sub-	(110%)	Sub-	(110%)
	(70%)		maximal		maximal	
			(70%)		(70%)	
Week 2nd	Maximal	Supra-	Maximal	Supra-	Maximal	Supra-
	(100%)	maximal	(100%)	Maximal	(100%)	Maximal
	Sub-maximal	(115%)	Sub-	(115%)	Sub-	(115%)
	(75%)		maximal		maximal	
			(75%)		(75%)	
Week 3rd	Maximal	Supra-	Maximal	Supra-	Maximal	Supra-
	(100%)	maximal	(100%)	maximal	(100%)	maximal
	Sub-maximal	(120%)	Sub-	(120%)	Sub-	(120%)
	(80%)		maximal		maximal	
			(80%)		(80%)	
Week 4th	Maximal	Supra-	Maximal	Supra-	Maximal	Supra-
	(100%)	maximal	(100%)	maximal	(100%)	maximal
	Sub-maximal	(125%)	Sub-	(125%)	Sub-	(125%)
	(85%)		maximal		maximal	
			(85%)		(85%)	
Week 5th	Maximal	Supra-	Maximal	Supra-	Maximal	Supra-
	(100%)	maximal	(100%)	maximal	(100%)	maximal
	Sub-maximal	(130%)	Sub-	(130%)	Sub-	(130%)
	(90%)		maximal		maximal	
			(90%)		(90%)	
Week 6th	Maximal	Supra-	Maximal	Supra-	Maximal	Supra-
	(100%)	maximal	(100%)	maximal	(100%)	maximal
	Sub-maximal	(135%)	Sub-	(135%)	Sub-	(135%)
	(95%)		maximal		maximal	
			(95%)		(95%)	

The three groups with different intensities performed five exercises on regular day basis with duration of one hour per session.

Five exercises consists of :- Leg extension, leg press, leg flexion, chest fly and abdominal .

Design of the Study

The subjects are randomly assigned to either the experimental or the control group. Both groups are pre-tested for the independent variable. The experimental group receives the treatment and both groups are post- tested to examine the effects of manipulating the independent variable on the dependent variable.

Statistical Analysis

Analysis of Covariance (ANCOVA) was used in examining the differences in the mean values of the dependent variables that are related to the effect of the controlled independent variables while taking into the account the influence of uncontrolled independent variables.

Analysis of Data

This chapter presents the results of the study from the data analysis of the experimental study. The purpose of the study was to find out the effects of three variations of weight training on body compositions of under- graduate male students of LNIPE NERC. To achieve the purpose of the study, forty (n=40) male students who were selected from LNIPE NERC, Guwahati, India. The selected subjects were randomly assigned into four groups of ten (n=10) each, such experimental and control groups.

Group I (n=10) underwent Supra-maximal training for a duration of 6 weeks and the number of sessions per week was confined to three alternatives days, in addition to the regular schedule of the curriculum.

Group II (n=10) underwent Maximal training for duration of 6 weeks and the number of sessions per week was confined to three alternatives days , in addition to the regular schedule of the curriculum.

Group III (n=10) underwent Sub-maximal training for a duration of 6 weeks and the number of sessions per week was confined to three alternatives days , in addition to the regular schedule of the curriculum.

Group IV (n=10) acted as a control, who was asked to refrain from any special training except their individual specialization.

Among the body compositions, the following dependent variables were selected for this study such as Fat-free mass, Fat mass, Extra-cellular fluid and Intra-cellular fluid. As per the available literatures, the standardized tests were used to collect relevant data on the selected dependent variables. The level of significance was fixed at .05 levels.

Findings

Descriptive Statistics like mean, standard deviation for the selected variables were calculated and present in table no 4 1. The result pertaining to the Analysis of Covariance for the selected variables is presented in table 4.2.

TABLE-4.1

Treatment	Mean	Std. Deviation	N
Control	59.5570	7.08028	10
Maximal	59.4170	3.96564	10
Submaximal	59.6900	12.86297	10
supramaximal	56.3710	7.09769	10
Total	58.7587	8.18316	40

Table- 4.2

Analysis Of Covariance Of Different Groups Obesevation In Relation To Fat-Free Mass

Adjusted Post Test Mean				Sources of Variance	Sum of Squar e	df	Mean Squares	F-rati o
Supramaximal Group	Maximal Group	Submaximal group	Control group					
58.971	59.128	58.716	58.220	Between	4.68	3	1.561	3.898*
				Within	14.01	35	.400	

It is evident from table 2 that the calculated value of the F ratio(3.89) in relation to fat free mass in higher than the tabulated F-ratio(2.87) at 0.05 level of significance it revealed that there is significant difference among admitted post Mean difference of different groups.

To find out the paired mean difference , the LSD Post Hoc test was applied and finding pertaining to this has been presented in Table 4.3.

Table 4.3
Least Significant Difference Post Hoc Test Of The Adjusted Post Test Paired Mean Of Ffm Of Different Groups

(I) Treatment	(J) Treatment	Mean Diff.(I- J)	Sig. a (p-value)
Control	Maximal	-.908*	.003
	Submaximal	-.497	.088
	Supramaximal	-.752*	.013
Maximal	Control	.908*	.003
	Submaximal	.412	.155
	Supramaximal	.157	.587
Submaximal	Control	.497	.088
	Maximal	-.412	.155
	Supramaximal	-.255	.380
Supramaximal	Control	.752*	.013
	Maximal	-.157	.587
	Submaximal	.255	.380

Table -3 revealed that since F-statistics is significant, post hoc comparison has been made for the adjusted means of the three treatment groups .It may be noted here that P-value for the mean difference between control and supramaximal is 0.013 and control and maximal is 0.003. Both these p-values are less than 0.05 which is significant at 5% level.

- There is a significant difference between the adjusted means of the supra-maximal and control groups on the data of Fat-Free Mass during Post-testing.
- There is a significant difference between the adjusted means of the Maximal and Control groups on the data of Fat Free Mass during Post-testing.
- There is no significant difference between adjusted means of the supra-maximal and Maximal during post-testing.

- There is no significant difference between adjusted means of the Sub-maximal and control during post-testing.
- There is no significant difference between adjusted means of the Sub-maximal and Maximal during post-testing.
- There is no significant difference between adjusted means of the Supra-maximal and Sub-Maximal during post-testing.

After analyzing of post hoc mean comparison that there was a significant difference on Fat-Free Mass between Supramaximal and control groups ; and Maximal and control groups .

Hence it is concluded that Maximal intensity training program is better than Supramaximal training programme, Submaximal training programme and control groups in improving Fat-Free Mass. The graphical representation of mean of fat free mass at different training programme has been presented in figure 1

Table 4.7

Analysis Of Covariance Of Different Group Observation In Relation To Extracellular Fluid

Adjusted Post Test Means				Sources Of variance	Sum of Square	df	Mea n Squ ares	F-ratio
Supramaxima Group	Maximal Group	Submaximal Group	Contro l Group					
19.139	18.804	19.139	20.444	Between	16.106	3	5.36 9	2.43
				Within	77.181	35	2.20 5	

It is evident from table -6 that the calculated value of F.ratio (2.43) in relation to Extracellular fluid in lesser than the tabulated value of F.ratio (2.87) at 0.05 level of significant. So, it is evident that there in insignificant difference between estimated adjusted post- test mean of Extracellular cellular fluid in different groups.

Table 4.8

Results Of Analysis Of Covariance Of Different Groups Observation In Relation To Intracellular Fluid

Adjusted Post Test Means				Sources of Variance	Sum of Squa re	df Sq	Mean uares	F-ratio
Supramaximal Group	Maxim al Group	Submaxi mal Group	Control Group					
21.955	24.094	25.881	25.627 0	Between	14.17	3	4.72	
				Within	98.94	35	2.82	1.672

It is revealed from table 7 that the calculated value of F-ratio (2.67) in relationship to Intercellular fluid in lesser than the tabulated value of F- ratio (2.87) at 0.05 level of significant . So ,it is shown that there in insignificant difference between adjusted post mean of Intracellular fluid in different groups.

Discussion on Findings

The first research objective investigated the extent to which training method and implementation principles and concept of different types of training (supramaximal, Submaximal & maximal) are used to identify its impact on selected variables of body composition . The subjects were specifically identified trainees who are enrolled in undergraduate courses of LNIPE, Guwahati .

Hence, four selected body compositions were selected to investigate and find out the effect of three variation of training plan on groups on selected body composition i.e Fat free mass, Fat mass ,Extra cellular fluid and Intracellular fluid.

Research scholars is of firm view that the finding of the study sufficiently justified the objectives and the very purpose of the study on which the study was conceptualized the result of the study try to throw the highlights on variation of training and its impact on selected Body composition variables . To access the six week variation of training effect , pre and post data of all four group were taken. These findings obviously have importance in term of familiar research and training implication.

The findings of the study clearly indicates that there was significant effect of variation of training on fat free mass and fat mass. Fat free mass in absolute quality of body compositions which is basically understood and learnt as the potential factors and genetically based. In concern of body composition, regular planned and systematic training normally have got three dimension changes. Firstly, the

fat mass goes down and lean body mass increases and lastly, depending upon the changes in the total body weight either increase, decrease or even no changes. From the result of the studies , it was observed that positive effect on fat free mass and fat mass probably due to given training program has utilized the stored fat mass. High intensity exercise such as supramaximal and maximal gaining popularity in the context of obesity management. More the muscles involved in exercise, greater the contribution of muscle pump to venous return. Hence, increase in muscles mass help to receive an increased cardiac output . Various studies found positive correlation between the Supramaximal and maximal program with fat-free mass (increase) and fat mass(decrease). This positive correlation coefficient indicates that increase in fat free mass may be responsible for increased vo2 max too.

In both trained and untrained normal weight person there is a reduction in fat oxidation in response to high intensity exercise that may be related to increase glycogen metabolism in muscles. The limitation in fat use during high intensity exercise in past which leads to decline in circulating fattyacid during high intensity exercise besides of other contributing factors (eg. Muscles recruitment pattern, enzymatic capacities , substrate deliver) responsible of affecting substrate uptake during exercise .The result of this investigation are also supported by the following research studies conducted earlier with one and other dependent and independent variables post test randomized control group designed was used as experimental design. No attempt was made to divide the groups in any manner in any manner. The collected data from the four groups prior to and immediately after the training program on selected criterion variables were statistically analyzed with analysis of covariance (ANCOVA) which was used to find out the significant difference between experimental and control groups. Whenever the 'F' ratio for adjusted test was found to be significant, the Least Significant Difference (LSD) was applied as post-hoc test to find out paired mean difference. In all the cases 0.05 level of significant was fixed to test the hypothesis.

Conclusion

It was observed that there were significant differences found between the three training programs on Fat Free Mass and Fat Mass.

It was observed that there were Insignificant differences found between the three training programs on Extra-cellular fluid and Intra-cellular fluid.

Reference

- Brian A Irving; Christopher k. Davis; David w. Brock(2008), "Effect of Exercise Training Intensity on Abdominal Fat and Body composition." Medicine and science in sports and exercise;40(11):18631872.
- Bullen ,B.A (1971), " overweight . In Encyclopedia of sport sciences and Medicine" . The Mac. Millar company, New york.
- Goran M.I (1995) "Intra- abdominal adipose tissue in young children". Journal of obesity

and related metabolic disorders; 19:279-283.

- Katch , F.I, and Katch ,V.L (1984) . "The body composition profile : Techniques of measurement and applications" . Clinical sports medicine.3.31.
- Kurt ,C.,Kobas ,I.,Ayas ,S ., Dindar , M.D and Omurulu , I.K (2010) the body composition and some conditional feature of the women judoists of Turkish national team." Facta:Physical Eduaction and sports;8(2): 133- 139

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Effective Communication Skills Are Key to Successful Coaching in Sports

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Abstract

One particular area that sport psychology, and coaches, could have a significant impact in youth sport is the area of improving communication skills. Such skills, both in terms of communicating verbally and through body language, are seen as an important part of a team's performance and success (Sullivan, 1993) and it is an area that many coaches find they are constantly seeking to improve come match-day on a Saturday or Sunday morning. Coaches can often be heard maligning the fact that their team is "too quiet" on the pitch and how confusion reigns because their players fail to communicate with one another.

Communication is the act of expressing (or transmitting) ideas, information, knowledge, thoughts, and feelings, as well as understanding what is expressed by others. The communication process involves both sending and receiving messages and can take many forms. **Verbal communication** is the spoken word, while **nonverbal communication** involves actions, facial expressions, body position, and gestures. Communication can occur in one-on-one or group settings, and in written formats (e.g., printed materials) or in visual formats (e.g., pictures, videos, and observational learning). And it involves not only the content of a message but also its emotional impact or the effect the message has on the person receiving it. Effective communication contains six elements (Crookes 1991):

Clear	Ensure that the information is presented clearly
Concise	Be concise, do not lose the message by being long winded
Correct	Be accurate, avoid giving misleading information
Complete	Give all the information and not just part of it
Courteous	Be polite and non-threatening, avoid conflict
Constructive	Be positive, avoid being critical and negative

Improved communication skills will enable both the athlete and coach to gain much more from their coaching relationship.

Key words: sports psychology, coaching, communication skill

The success of any coach, at perhaps every level of competition, is determined by his or her ability to effectively communicate with athletes and in turn getting them to better communicate with each other. It's easy to focus primarily on the technical elements of sport — putting together good game plans and teaching good technique — but also easy to lose sight of the need to communicate effectively. Coaches may be knowledgeable and highly organised, but without good communication skills, these attributes may never be reflected in the performance of their athletes.

Ask yourself these questions. Do you encourage athletes to speak up? Do you pay attention to body language? Do you recognize signs of dehydration and fatigue? Communicating would be easier if athletes always told coaches when there was a problem. However, research suggests that 70 per cent of communication is non-verbal. That's why it is important for coaches to watch for signals that indicate something is wrong. Coaches skilled in reading their athletes and who encourage them to speak up can successfully prevent the effects of dehydration or injury, assist in skill development, and bolster athletes' confidence. (Petlichkoff 2002)

Non-Verbal messages

At first, it may appear that face-to-face communication consists of taking it in turns to speak. While the coach is speaking, the athlete is expected to listen and wait patiently until the coach finishes. On closer examination, it can be seen that people resort to a variety of verbal and non-verbal behavior in order to maintain a smooth flow of communication. Such behaviour includes head-nods, smiles, frowns, bodily contact, eye movements, laughter, body posture, language and many other actions. The facial expressions of athletes provide feedback to the coach. Glazed or down turned eyes indicate boredom or disinterest, as does fidgeting. Fully raised eyebrows signal disbelief and half raised indicate puzzlement. Posture of the group provides a means by which their attitude to the coach may be judged and act as pointer to their mood. Control of a group demands that a coach should be sensitive to the signals being transmitted by the athletes. Their faces usually give a good indication of how they feel, and a good working knowledge of the meaning of non-verbal signals will prove invaluable to the coach.

Communication Blocks

Crookes (1991)[1] believes that difficulties in communicating with an athlete may be due a number of issues including the following:

- ❖ The athlete's perception of something is different to yours
- ❖ The athlete may jump to a conclusion instead of working through the process of hearing, understanding and accepting
- ❖ The athlete may lack the knowledge needed to understand what you are trying to communicate

- ❖ The athlete may lack the motivation to listen to you or to convert the information given into action
- ❖ The coach may have difficulty in expressing what she/he wishes to say to the athlete
- ❖ Emotions may interfere in the communication process
- ❖ There may be a clash of personality between you and the athlete
- ❖ These blocks to communication work both ways and coaches need to consider the process of communication carefully.

Effective Communication

Crookes (1991)[1] states that before communicating with an athlete, coaches should consider:

- ❖ WHY they want to communicate
- ❖ WHO they wish to communicate with
- ❖ WHERE and WHEN the message could best be delivered
- ❖ WHAT is it that they want to communicate
- ❖ HOW they are going to communicate the information

Effective communication contains six elements (Crookes 1991):

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Constructive	Be positive, avoid being critical and negative

The following 10 tips are for improving coach–athlete and team communication.

1. Be Approachable

Establish open lines of communication with your players. Ask questions that specifically address injuries, hydration status, and recovery. Pay attention to both the verbal and non-verbal messages your athletes send. If they look tired and lack effort, they may be sending an important non-verbal message about their hydration and nutrition status or their need for additional rest. (Petlichkoff 2002)

2. Be an Active Listener

Hearing what your athletes say and understanding them are distinctly different. When in doubt, paraphrase what they say, so they know you are listening. For example, 'What you are saying is…' or 'Are you suggesting that …' helps athletes know you are listening and understand their concerns. (Petlichkoff 2002)

3. De□ine Roles

Give every athlete a sense of how he or she fits into the big picture. By recognising the role each of your players contributes to the team, you give your athletes a sense of worth and achievement. You should instil in every team member a sense that they can improve their status by hard work and commitment. (Steuerwald 2002)

4. Set Goals

Encourage your athletes to set realistic goals and communicate how to achieve them. Discuss the differences between individual and team goals and the need to sometimes sacrifice personal goals for team objectives. The ability to set goals with a sense of purpose is a life skill that will help your athletes beyond their sport. (Steuerwald 2002)

5. Establish Mutual Trust

Positive relationships are built on mutual respect and trust. Your athletes must know that they can depend on you to be fair and positive, even in intense competition. Criticise behaviours or decision-making, but leave personality out of it. Criticism must be constructive, positive, consistent, and oriented around improving performance. None of your players will improve when made to feel worse about themselves. (Steuerwald 2002)

6. Communicate with a Positive Approach

When providing constructive feedback, think good, better, how.

Good — start with something they did correctly.

Better — give instructional feedback on how to get better.

How — finish with a compliment so they want to get better. (Petlichkoff 2002)

7. Empower Athletes

Within the context of a disciplined and structured environment, empower your athletes to make decisions and control various aspects of a game or competition. Thoroughly teach concepts with each athlete understanding his/her part. Then, charge your athletes to execute their part by making adjustments on the run and communicating problems with you. Responsibility and authority must go hand in hand. Avoid coaching a fear of failure into your methods of communication and encourage risk taking as an integral part of athletic competition. (Steuerwald 2002)

8. Fuel Athletes' Minds and Bodies

Your athletes will not be able to perform mentally and physically without the proper foods and fluids. Educate athletes about food and fluid selections that focus on refuelling and rehydrating. Sports drinks offer athletes more than water because they replace fluids and electrolytes lost in sweat and put back carbohydrate energy. Properly fuelled athletes are able to perform at a higher level physically

and mentally. (Steuerwald 2002)

9. Develop a Communication Plan

Plan for communication opportunities just as you plan for game structure. Opportunities for communication can be as simple as searching out an athlete after a difficult practice and asking if they understand the reasons for the criticisms given. Your athletes can only apply coaching guidance in so far as they understand what is desired of them. An excellent technique for developing lines of communications is a season-end interview. You can engage an athlete in '20 questions' in a quiet environment so that they feel you are interested in them as a person. (Steuerwald 2002)

10. Use Communication to Improve Teamwork

Better teamwork is an interaction of five key elements (Lenti 1996):

- **Effective Communications** — Clear, positive communications from coach to coach, coach to athlete, and athlete to athlete are essential in establishing the concept of 'teamwork'. All team members and staff will clearly understand team goals and work toward the achievement of stated objectives.
- **Winning Attitudes** — We all know that athletes with good attitudes are usually the ones who will contribute most to the team. It's not enough to inspire good attitudes in individual players: a 'team attitude' is necessary to build the kind of teamwork needed for success. A good team attitude can be defined by how well your athletes accept their roles and responsibilities to the team. The star role is relatively easy to accept, but it is equally important for the team specialists and back-ups to understand and accept their roles and responsibilities. Encourage this kind of attitude by setting an example: accept all the responsibilities of your position as coach, not just the ones that you like.
- **Team Ego** — once players understand and accept their roles on the team, it is possible to take the concept of 'team attitude' one step farther to 'team ego.' This simply means that players must overcome their own egos for the good of the entire team.
- **Motivation** — your athletes must be given reasons to be motivated to achieve success for the team. Set up a continuing system of motivation by setting long-term goals and by encouraging your athletes to achieve them by meeting a series of short-term goals. Include personal, academic and career goals as well. By measuring progress in small steps, your athletes are given an ongoing sense of achievement that keeps their motivation high. Your athletes can also motivate each another. Split players into drill groups and score them as a team rather than as individuals, make your players feel they have a vested interest in each other.

- **Discipline** — the establishment and maintenance of positive communications, team attitudes and egos, and motivation depends heavily on the final element of teamwork — discipline. Discipline is the glue that holds everything else together. Remember that discipline, if used fairly and consistently, is a positive force in building teamwork. Rules are a part of discipline so make sure the rules you do have are consistent with team goals, are realistic, and are enforceable. Also develop self-discipline — 'what one does when no one is watching'. Help athletes develop self-discipline through: a) setting goals, b) clearly communicating your expectations of them and maintaining those standards, and c) demanding the best effort from each of them, whether in practice, in the classroom, or in the game.

Conclusion

- Crookes (1991)[1] believes that coaches should:
- Develop their verbal and non-verbal communication skills
- Ensure that they provide positive feedback during coaching sessions
- Give all athletes in their training groups equal attention
- Communicate as appropriate to your athlete's thinking and learning styles
- Ensure that they not only talk to their athletes but they also listen to them as well
- Improved communication skills will enable both the athlete and coach to gain much more from their coaching relationship

References

- Beashel, P. & Taylor, J. (1996) Advanced Studies In Physical Education And Sport. Uk: Thomas Nelson & Sons Ltd.
- Beashel, P. & Taylor, J. (1997) The World Of Sport Examined. Uk: Thomas Nelson & Sons Ltd.
- Bizley, K. (1994) Examining Physical Education. Oxford; Heinemann Educational Publishers
- Crookes (1991) Complan Column. *Athletics Coach*, 25 (3), p. 13
- Davis, B. Et Al. (2000) Physical Education And The Study Of Sport. Uk: Harcourt Publishers Ltd.
- Galligan, F. Et Al. (2000) Advanced Pe For Edexcel. Oxford; Heinemann Educational Publishers
- Hargie, O. (1997) The handbook of communication skills. Psychology Press
- Lenti F 1996, 'Building teamwork', GSSI Coaches Corner, www.gssiweb.com.
- Maguire, P. And Pitceathly, C. (2002) Key communication skills and how to acquire them. Bmj, 325 (7366), p. 697-700
- Petlichkoff LM 2002, 'Speak up or sit out: encouraging players to ask for help', GSSI

Sidelines , April, www.gssiweb.com.

- Steuerwald B 2002, 'Communicating with the athlete and their readiness to change' GSSI The Clipboard, www.gssiweb.com

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Yoga Improving Health Related Physical Fitness

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Abstract

The purpose of the study was improving health related physical fitness (Cardiorespiratory, Muscular strength and endurance Flexibility Body composition) is the biggest problem of our modern society. As well as all their problems can be solved by yoga. Types of yoga (Hatha Yoga,Vinyasa, Ashtanga, Power Yoga, Hot Yoga, Restorative Yoga) which increase health and fitness of individual and society in the modern age. With the life can be lived in better way. Due to its importance it is recommended to upilize in life.

Keywords: Health related fitness, Hatha Yoga,Vinyasa, Ashtanga, Power Yoga, Hot Yoga, Restorative Yoga

Introduction

Health-related physical fitness is all about improving quality of life leaning towards Cardiorespiratory fitness Muscular strength and endurance Flexibility Body composition; all work well together. This means increased energy levels, a stronger respiratory system, and an optimized percentage of body fat against lean body mass. The key to achieving physical fitness for health reasons means focusing on each health related physical fitness component mentioned above when exercising. Some exercise can potentially address all five components however a mix of exercises is suggested in order to best address each component. The average person needs regular physical activity simply because the human body was designed to move. To keep it healthy, you need to move. Health related physical fitness means that you choose a variety of activities to benefit your body and your mind.

Yoga is the oldest system of personal development encompassing body, mind, and spirit. The word yoga, from the word “yuj” (Sanskrit, “to yoke” or “to unite”), refers to spiritual practices that are essential to the understanding and practice of Hinduism. Yoga and yogic practices date back more than 5,000 years — the Indus Valley seals depict a number of figures in postures identical to various asanas. The term covers

a wide array of practices, embodied in eight "limbs," which range from ethical and moral guidelines to meditation on the Ultimate Reality. Yoga is a combination of both physical and spiritual exercises, entails mastery over the body, mind and emotional self, and transcendence of desire. The ultimate goal is moksha, the attainment of liberation from worldly suffering and the cycle of birth and rebirth.

Today yoga being a subject of varied interests, has gained worlds wide popularity. Yoga is traditionally believed to have beneficial effects on physical and emotional health. The overall performance is known to be improved by practicing yoga techniques and their effects on physical functions. 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. Yoga may be as effective as or better than exercise at improving a variety of health-related outcome measures and as a result this study was undertaken to find out the yoga training on health related physical fitness variables.

Health Related Physical Fitness

Health-Related Fitness involves exercise activities that you do in order to try to improve your physical health and stay healthy, particularly in the categories of cardiovascular endurance, muscular strength, muscular endurance, flexibility and body composition.

Cardiovascular fitness is the ability of the heart (cardio) and circulatory system (vascular) to supply oxygen to muscles for an extended period of time. Cardiovascular is also called cardiorespiratory (lungs) fitness.

Muscular strength and endurance is the muscle's ability to produce effort or perform work.

- Muscular endurance refers to the ability of the muscle to work over an extended period of time without fatigue.
- Muscular strength refers to the maximum amount of force a muscle can exert against an opposing force.

Flexibility is the ability to move a body part through a full range of motion at a joint (ROM).

Body composition is the ratio of body fat to lean body mass (including water, bone, muscle, and connective tissue). Having too much fat tissue is a risk factor for cardiovascular diseases, diabetes, cancer, and arthritis.

Yoga Fitness

Yoga fitness is the result of constant practice of Yoga in all its forms. These are physical and mental and include Yoga poses, breathing exercises and meditation. Yoga is the oldest form of physical and mental development that includes the body, mind, and spirit.

Modern Types of Yoga

1. Hatha Yoga
2. Vinyasa
3. Ashtanga
4. Power Yoga
5. Hot Yoga
6. Restorative Yoga

Hatha Yoga

- ❖ Yoga as we know it in the Western world is based on the practice of Hatha yoga, which uses different postures to prepare your body for meditation and reach an enhanced state of enlightenment.
- ❖ Hatha yoga classes are typically suitable for all levels and focus on proper a lignment.
- ❖ Hatha classes may also incorporate the use of props, such as straps or blocks, to help you safely access postures.

Vinyasa

- ❖ A vinyasa class is one that uses a sequence of postures, or asanas, to build heat in your body and help eliminate toxins.
- ❖ Vinyasa yoga, also often referred to as Vinyasa Flow, is typically fast-paced.
- ❖ Previous yoga experience is recommended but not necessarily required.

Ashtanga

- ❖ Ashtanga yoga refers to a type of Vinyasa class that promotes internal cleansing through a vigorous physical practice and synchronized breathwork.
- ❖ According to the Ashtanga Yoga Research Institute, Ashtanga yoga is effective in building strength, improving circulation and removing toxins from your internal organs.

Power Yoga

- ❖ Power yoga was originally developed to make the practice of Ashtanga yoga more accessible to Westerners.
- ❖ "Most people wouldn't take a class called Ashtanga Yoga, because they had no idea what it meant," says Beryl Bender Birch, author of "Power Yoga." Power Yoga, on the other hand, was something Americans could relate to and know that they'd get a good workout."
- ❖ Like Ashtanga, Power yoga emphasizes strength and endurance through a vigorous series of asanas.

- Unlike Ashtanga, however, postures are performed in no particular order. In Power yoga, there is less emphasis on the subtleties of each posture.

Hot Yoga

- Many yoga studios offer hot yoga classes, which are held in a heated room to promote increased flexibility.

Restorative Yoga

- Restorative yoga uses props such as blankets or blocks to create soothing, well-supported postures that are held for several minutes.
- Classes are concluded with a lengthy corpse pose--up to 20 minutes--to promote a deep state of relaxation.
- According to Yoga Journal, Restorative yoga can help give you relief from insomnia, asthma, migraines and chronic pain.

Yoga Effect for Health Related Physical Fitness

Cardio Respiratory Bene□its

- Power yoga, Ashtanga and flow styles of yoga follow a format that encourages you to work hard enough to raise your heart to meet cardiovascular improvement standards.
- These styles move from one pose to the next quick quickly, keeping you moving like you would do in any fitness class.
- Because yoga classes are typically 60 to 90 minutes long just 2-3 classes a week will meet the physical activity guidelines for improving your fitness set by the U.S. Department of Health and Human Services.

Muscular Benefits (Strength and Endurance)

- Yoga requires you to get into and hold positions that will naturally strengthen your muscles, using only your bodyweight for resistance. This is a very unique approach because as you do more yoga, your body weight should naturally decrease which logic would say should make the poses more easy to complete.
- Every yoga pose will provide you with strength if you perform them with regularity, but try the plank, bakasana, and various headstands if you particularly want to focus on strength.
- Yoga builds your muscular endurance in a systematic, gentle controlled manner. Regular practice of yoga asanas or poses improves the muscle endurance and strength. Yoga asanas or poses are exercises and like any other exercise form they help to tone and strengthen the body and improve muscle endurance and strength. The practice of yoga poses is started by stretching, expanding and softening the inner body in order to become strong rather than becoming tough or hard. Most of the poses are muscular endurance exercises.

Body Composition

- ❖ Vinyasa classes with plenty of movement offer the greatest potential for burning calories.
- ❖ The greater benefit of yoga is that is also helps you clear your mind and become more aware of the choices you make off the yoga mat. o To best use yoga as a way to improve your fitness, you must consider which of these components you want to focus on and choose a yoga class to fit that goal.

Recommendation and Further Suggestions

- ❖ Yoga for fitness increases in popularity as more people than ever enjoy yoga. Most health clubs and gyms offer some type of yoga class because it's generally accepted as a way to improve flexibility and to reduce stress.
- ❖ There are many types of yoga classes to choose from, however, and you should choose one that meets your fitness goals.
- ❖ According to yoga philosophy, a healthy spine creates balance and is a conduit to a sound mind. Yoga is designed to stimulate the nerves running along the spine.
- ❖ Poses involving twists and upside-down positions are especially effective for this purpose. When you practice all categories of yoga poses-seated, standing, lying down on your stomach or back, and upside down-you cause each vertebra (bony segment of the spine) to be slightly separated from the ones above and below it.
- ❖ Creating space between the vertebrae serves to 'plump' the disks between them, allowing energy to flow freely to the brain and giving the blood a clear passageway to circulate in a healthy manner.
- ❖ Internal organs are growing and changing during this period and can become upset with diet changes or over stimulation of nerves.
- ❖ Yoga helps to keep organs healthy despite everyday stresses. It also assists in balancing out the mood swings and eliminating the body aches resulting from the hormonal imbalances experienced during sexual maturing.
- ❖ During this growth period, yoga is useful in easing the tension of tight muscles, tendons, and ligaments, and it can also help to strengthen bones. Certain poses alleviate menstrual cramps (hooray!), and others work internally on clearing energy blocks that may cause headaches, sinus problems, irritability or digestive problems.
- ❖ Yoga promotes unification of body and mind, and as you practice, it will increase your awareness and your ability to look within, think for yourself, and trust yourself.
- ❖ The result is that you will feel more peaceful and self-confident during a period of rapid change and be able to engage the world with a more positive outlook.

- In yoga philosophy, the body is considered a temple to be treated with respect, understanding, and acceptance; but dealing with the rapid physical changes of adolescence can be difficult at times. For instance, as girls undergo hormonal changes and begin to experience the internal cleansing process of the menstrual cycle, keeping the body clean and free of odor is very important. As boys undergo the hormonal changes leading to manhood, they often experience glandular secretions resulting in sweaty feet and underarms, which also require regular cleansing.
- Frequent cleansing is necessary to keep the pores open so that the skin is able to release toxins freely. Bathing before practicing yoga enhances the capacity of the pores to open and expel toxins and excess oil through sweat glands. Yoga deep breathing exercises promote the process of internal cleansing by improving circulation. An added benefit of yoga practice is the release of negative energy, which can block nadis (energy channels), glands, and pores.

Conclusion

Yoga and health related physical fitness is an integral part of our lifestyle. It removes the impurities from the level of mind, health fitness and unites everything with the spirit. Modern Yoga exercises to improve physical fitness and strengthen the muscles of the body of all the various benefits of yoga are not limited to this only, but also to work to improve and develop the various components of the body. We Recommendations with Use Modern Yoga exercises because of its clear and positive impact on improving the health-related physical fitness variables.

References

- A,Ross, S.J. Thomas. The health benefits of yoga and exercise: a review of comparison studies. 2010, 16:3-12.
- Bal, B.S.; Kaur, P.J. Effects of selected asanas in hatha yoga on agility and flexibility level. J Sport Health Res. 2009, 1(2):75-87.
- Bole M.V. and Karambelkar P.V. (1971-72), "Effect of Yoga Training on Vital Capacity and Breath Holding Time". Yoga Mimansa XIV.
- Ballor, DL., (1996), "Exercise Training and Body Composition Changes", As Cited in Roche, AF., Heymsfield, SB. and Lohman TG., Human Body Composition, Champaign Illinois: Human Kinetics Publishers Inc.
- Fonda's J., (1984), Health and Fitness Diary, England: Penguin Books Ltd.,
- Gilmore C.P., (1981), Exercising for Fitness, Canada: Time-Life Books Inc.,
- Hale T, (2003), Exercise Physiology A Thematic Approach, England: John Wiley & Sons Ltd.
- Heyward, Vivian H., (2002), Advanced Fitness Assessment and Exercise Prescription, (4ED), Champaign Illinois: Human Kinetics Publishers Inc.

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