

“The Anatomy Trains Structural Integration Methods of Yoga and Training”

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ABSTRACT

It began in our past, as the adults trained the young ones through knowledge and skills, which were necessary in their social structure. Regular Physical activity and exercise can help you stay healthy, energetic and independent as you get older. Exercise plays a vital role in preventing health diseases and stroke. The health benefits of doing regular Exercise have been shown in many studies. This paper reviews the evidence of the benefits of exercise for all the body systems. Physical activity and exercise can reduce stress and anxiety, boost happy chemicals, improve self-confidence, increase the brain power, sharpen the memory and increase our muscles and bones strength. It also helps in preventing and reducing heart disease, obesity, blood sugar fluctuations, cardiovascular diseases and Cancer.

Keywords: sports, need, exercise, benefits, physical activity, importance

1. INTRODUCTION

Education is that important aspect of human life, which start from his birth and continues till death. Thus education is simply a way of development, by which body, mind and spirit can be trained and developed accordingly. The Preamble of National Policy of Sports states that, “Activities related to Sports and Physical Education are essential components of human resource development, helping to promote good health comradeship and a spirit of friendly competition, which in turn, has positive impact on the overall development of the

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youth.” Merriam Webster defined Physical education as an instruction in the development and care of the body ranging from simple calisthenic exercises to a course of study providing training in hygiene, gymnastics, and the performance and management of athletic games. From the ancient times to today the opinion of physical educators regarding yoga has been changed. The ultimate goal of yoga from religious belief has been changed to keep fit and healthy at all ages and for all sexes. Therefore yoga found a significant place in today’s physical education programme. Teaching and learning includes both formal and informal processes which are equally important. A balanced curriculum plan includes efficient movements of the body and the limbs through an effective and planned physical education. Many of the educational objectives are achieved by means muscular activities including sports, gymnastics, games, dance and exercises. The total personality cannot be developed without physical education. Physical education did not get much significance as it required. There is no proper maintenance of programs and records in schools. Also the progress shown by a student is not maintained in a better way for better results and achievement. Physical Education was recommended as a compulsory subject by our various commissions, but the situation did not improved. In our school curriculum four periods are allotted per week for physical education. It is imposed over the Physical Education Teacher (PET) to look after the other needs of a school other than his teaching and ground activities. It is also demanded from a single physical education teacher to conduct sports activities of the entire school irrespective of strength of students. Obesity normally refers to the abnormal body fat in high proportion. Further one may not be obese but can be over-weight. But globally there are a number of persons who are overweight as well as obese. Overweight people have excess of body-fat that results in higher weight as compared to given standards. There may be the other reasons of overweight, these includes muscle mass/weight, bone mass/weight, or body water. Person, who is considered as overweight, may not attain excess weight to qualify as being obese. Obesity may be defined as the excessive quantity of body fat or adiposity with respect to the lean body mass. Commonly, obesity is defined with the help of height / weight chart, where a person having 20% weight or more, than that of the considered normal is termed as obese and suffered from obesity.

2. REVIEW OF LITERATURE

Burdette and Whitaker (2005) conducted a cross-sectional survey in 20 large United States cities. In this survey, daily time of outdoor play, duration of television viewing, and the body mass index of 3 year old children were measured. The data was collected with the mothers of the selected children. Neighbourhood Environment for Children Rating Scale was used to assess the maternal perception of neighbourhood safety. 3141 children were selected as a sample for the present study, 35% of which were lived in households with incomes below the United States poverty threshold. Monyeki et al. (2005) studied the relationship of five body composition characteristics include body mass index (BMI), sum of skinfolds (SSF), body fat percentage (%BF), waist-to-hip ratio (WHR) and fat-free mass (FFM) with 9 physical fitness items in undernourished rural primary school children of Ellisras, South Africa. The cross-sectional study includes a sample of 462 boys and 393 girls of age 7- 14 years. Five body composition measures (body mass index, sum of skinfolds , body fat percentage , waist-to-hip ratio and fat-free mass) were assessed and nine physical fitness test items (standing long jump, sit-ups, bent arm hang, 50 m sprint, 10 x 5 m shuttle run, 1600 m run, sit and reach, flamingo balance and plate tapping) were assessed. The result revealed that body mass index (BMI) was highly correlated with fat-free mass (FFM). Nassis et al. (2005) investigated about the influence of cardio-respiratory fitness on total and truncal fatness among children. The study was an observational cohort study conducted in the primary and secondary schools of Athens, Greece. Sample consisted of 1362 healthy children of age group 6 to 13 years. There were 742 boys and 620 girls who became a part of the collected sample. The calculated data includes measurements of anthropometric measures including height, skin folds thickness, percent body fat and body mass. The sample was grouped into two groups' non-overweight group and overweight/obese group. Endurance shuttle-run test was applied to assess cardio-respiratory fitness (CRF). Katja (2006) conducted a research on physical activity, fitness, abdominal obesity, and cardiovascular risk factors in Finnish men and women. The researcher disclosed that cardiovascular disease is directly associated with low cardio-respiratory fitness and physical inactivity. Many researchers suggested that individuals who were engaged in physical activity or cardio-respiratory fitness at a satisfactory level,

have chances of cardiovascular disease. The study consists of 13,437 adults (both men and women) of age 25 to 74 years and selected through stratified random sample according to age groups of 10 years each, gender and area.

3. RESEARCH METHDOOGY

The study was an experimental research. According to Babbie (1998) experimental research adheres to scientific research design strictly. The research design consists of a hypothesis to be tested, a variable which has a probability of manipulation and can be calculated, measured and compared. Controlled environment is an important aspect of experimental research in which it is completed. Data will be collected and results will drawn out on the bases of which hypothesis is either supported or rejected. This research method is referred to testing of hypothesis or deductive research method.

3.1 SAMPLE

The population included in the present study comprised of the adolescents of age from 14 to 17 years residing in the state of Punjab. 300 adolescent students were selected for the present study. The sampling process was divided into various phases. In phase I, three regions of state Punjab, viz. Majha, Malwa and Doaba were considered. There are total 22 districts in Punjab, out of which 4 belong to Majha, 14 to Malwa and 4 to Doaba. Since Malwa region is the largest one with 14 districts, so 150 students were selected from the Malwa region. Rest 150 were selected from the region of Majha and Doaba. 75 were selected from Majha and 75 from Doaba districts. Further the DAV schools were selected, as these are distributed across the state and in all the three regions of Punjab. In third phase only obese students were included by applying Body Mass Index. The sampling technique used was purposive sampling. In last phase, the students were selected with systematic random sampling, where students with odd roll numbers were included in the sample.

3.2. OBJECTIVE OF THE STUDY

To frame the physical exercise training program and yoga training program for school going obese children of class X standard.

3.3. GROUPING OF STUDENTS

As the present research is an experimental study, therefore there are three groups in which sample have been distributed., as shown below:

Table 3.1: Group-wise Distribution of Sample

Group	Group Nomination	No. of Students	Boys	Girls
I	Controlled (No intervention)	100	50	50
II	Intervention with Physical Training	100	50	50
III	Intervention with Yoga	100	50	50
	Total	300	150	150

The students were randomly assigned to the groups. 100 students were included in each group. The present experimental design was Randomised Groups, Pre-Test-Post-Test Design. Koul (2009) revealed that in this design, the subjects are randomly assigned to the controlled and experimental groups. Pre-test is administered after assigning the groups and then intervention is provided to the experimental group/s only for a specific time. At the end of the treatment, post-test is administered as a measure of dependent variable. The difference between means of pre-test and post-test is found and tested for the significance with appropriate statistical techniques.

3.3 THE EXPERIMENTAL DESIGN

As discussed above the experimental design for the present study was Randomised Groups, Pre-Test-Post-Test Design. After pre-test the intervention programme was given to the two experimental groups whereas one of the groups was controlled one with no intervention. The intervention was given for 6 weeks of experimental period and was given six days a week. So, total 36 days of intervention programme was planned and implemented. The intensity of the programme was of 60 minutes per day. The session was conducted during the morning hours, i.e. from 6:00 AM to 7:00 AM daily.

Table 3.2: Randomised Groups, Pre-Test-Post-Test Design

Pre-Test	Controlled (No intervention) (N=100; Boys=50, Girls=50)	Post-Test
	Intervention	
	Experimental Intervention with Physical Training (N=100; Boys=50, Girls=50)	
	Experimental Intervention with Yoga Training (N=100; Boys=50, Girls=50)	

3.4 TOOLS FOR DATA COLLECTION

For pre-test and post-test data collection, Demographic profile along with Body Mass Index (BMI), Skin Fold Measurement, Height, Weight and body fat percentage was calculated. Body composition measurements include height and weight. Anthropometric Rod (Bertapelli, Machado, Roso and Guerra-Junior, 2017) was used to find out height (in CM) of the subjects. Weight machine (Scotland, 2017) was used to measure the weight of subjects (in KG). Body Mass Index (BMI) was calculated by applying the formula given by Kerekes, Fielding and Apelqvist (2017). Body fat was determined by using Skin-Fold Calliper. Both BMI and body mass were calculated in percentage. The other instruments that were used are stopwatch and measurement tape.

3.5 THE EXPERIMENTATION PROCESS

As discussed earlier there were three groups that undergo experimentation according to Randomised Groups, Pre-Test-Post-Test Design. One group (Group I) was controlled while two were experimental. Pre-test and post-test were applied on the controlled group without intervention. From the two experimental groups, one group (Group II) underwent Physical Training while the other (Group III) underwent Yoga for 6 weeks.

3.5.1 INTERVENTION WITH PHYSICAL TRAINING

Six week physical training was planned and applied to Group II. The intensity of training was easier in first three weeks whereas in later three weeks the intensity of physical training was increased. The physical training was given six days a week except Sunday. Different exercises were planned on the different days of a week. The duration of physical training was of an hour during the morning from 6 AM to 7 AM. A systematic scheme of physical training was given as under:

Table 3.3: Physical Training Prescribed for Group II during 1st, 2nd and 3rd Week

Week 1 st , 2 nd and 3 rd					
Warming Up Timing 10 to 15 Minutes	Day	Exercise	No. of Sets	Duration of Exercises	Density Between Sets
	Monday	Medium Race	1	7 to 10 Minutes	3 to 5 Minutes
		Hoping (25 Steps)	1		
		Bounding (25 Steps)	1		
		Fartlak (2 KM)	1	20 to 23 Minutes	
	Tuesday	30 Meter (Medium Speed)	3		2 to 5 Minutes
		30 Meter Full Speed	3		
		60 Meter Full Speed	2		
		Core Exercise	1	12 to 15 Minutes	
	Wednesday	Fartlak (2 KM)	1	20 to 23 Minutes	3 to 6 Minutes
ABC		1	20 to 25 Minutes		

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	Thursday	Stair Exercise	6 to 7 Minutes		4 to 6 Minutes
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	Friday	60 Meter (Power Dragger)	3		2 to 4 Minutes
		120 Meter	3		
		30 Meter	6		
		Rail Grip			
	Saturday	ABC	1	20 to 25 Minutes	4 to 6 Minutes
		Game (Any Choice)	1	20 to 25 Minutes	

Table 3.3: Physical Training Prescribed for Group II during 4th, 5th and 6th Week

Week 4 th , 5 th and 6 th					
Warming Up Timing 10 to 15	Day	Exercise	No. of Sets	Duration of Exercises	Density Between Sets
	Monday	Bounding (25 Steps)	4		2 to 3 Minutes
		Hoping Right Foot/ Left Foot (25 Steps)	6		

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		Fartlak (2 KM)	1		
		Core Exercise	1	10 to 12 Minutes	
Tuesday		Running 3 KM	1		3 to 6 Minutes
		ABC	1	10 to 15 Minutes	
Wednesday		120 Meters	3		
		800 Meters	3		3 to 6 Minutes
		200 Meters	3		
Thursday		Running (4 KM)	1		3 to 6 Minutes

		Core Exercise	1	10 to 15 Minutes	
Friday		600 Meters	3		3 to 6 Minutes
		Game (Any Choice)		20 to 25 Minutes	
Saturday		30 Meters (Medium Speed)	5		2 to 3 Minutes
		30 Meters (Full Speed)	4		
		30 Meters (Full Speed)	4		

		Running (4 KM)	1		5 to 6 Minutes
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3.5.2 Intervention with Yoga

4. RESULTS AND DISCUSSIONS

The results showed that, total number of screened sample 14.75% of the boys were obese, 13.96% of the girls were obese. The results also revealed that 85.24% of the boys were non obese in weight and 86.03% of the girls were in non obese in nature. Table number one shows the prevalence of obesity by gender among the school going students of class X standard. While obesity seems to be growing in children regardless of sex, it can be noted that there is a gender wise variation in the prevalence of overweight and obesity in children irrespective of the place as revealed in many studies done in Punjab. The present study also compares the sex wise variation seen in children. The results of table number 2 depicts that 14.75% of the boys were obese, 13.96% of the girls were obese as already discussed in previous table. When gender wise comparison in terms of over weight was made, it was found out that 27.63% of the boys were over weight and 26.51% of the girls were over weight. It was also noted that out of a total of 2412 students class X standard screened, 1288 were boys, and 1124 were girls. The prevalence of obesity among boys was found to be higher than that of girls. The significance results showed that experimental group improved health due to participation of physical activities. In other hand the results indicated that there was slight improvement had been observed on their physical fitness except BMI . The correlation coefficient of experimental group on muscular strength and flexibility showed moderate significant positive correlation.

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