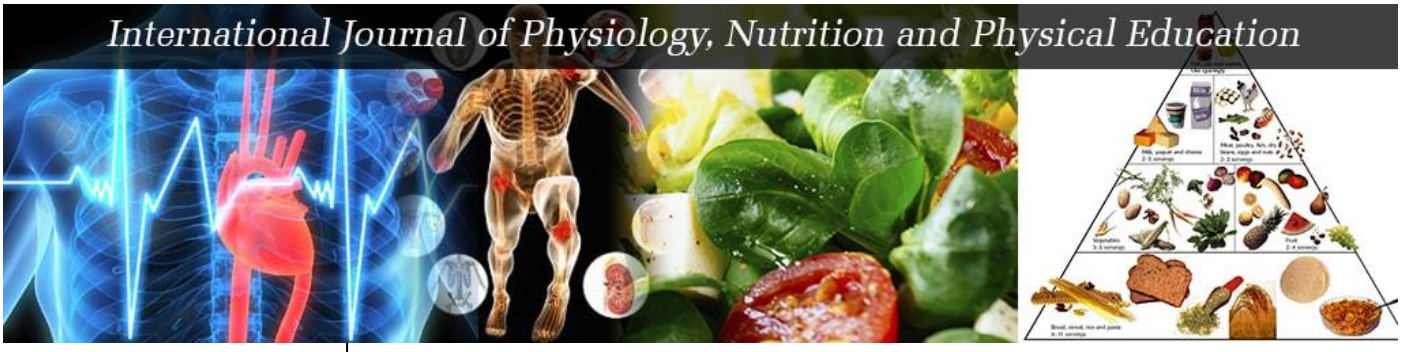

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Effect of physical activity programmed on obesity and physical fitness of obese boys

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Abstract
The purpose of the study was to observe the effect of Physical Activity Program on Obesity and Physical Fitness of age groups 11year to 15-year Obese Boys. With the help of purposive sampling technique researcher selected 20 obese boys from Chandrapur (South) High School, Agartala, Tripura. The researcher used the Single group, pretest- posttest design and conducted eight weeks physical activity program. For the collection of data, muscular strength and Endurance, muscular endurance, Cardiovascular Endurance, Flexibility was measured by standard physical fitness test i.e.,Sit ups, pushups, 9 min. run and walk and sit &Reach test and evaluated the performance between pretest and posttest. Weight, BMI and fat percentage also evaluated. To determine the effect of physical activity program, Paired Sample 't' test was used. On the basis of findings of the study, there was a significant effect of physical activity program on obesity and Physical Fitness. The results showed that due to physical activity program performance was increases in the component of physical fitness significantly and reduces the weight, BMI and percent body fat.

Keywords: Obesity, Physical Fitness components, Physical activity, Flexibility, Obese Boys

Introduction
Obesity is a rapidly growing global problem. World health organization has declared obesity as one of the most neglected diseases of significant public health importance of this century. The incidence of obesity at all ages is on the rise in the developing countries including India.
The daily routine of school going children is quite compressive that makes them physically inactive and susceptible to obesity. Children particularly spend a lot of time playing computer games, watching television and eating fatty snacks like chips and chocolates, instead of playing outside and eating nutritious meal [1]. This study aims how does an exercise regime helps to reduce obesity and benefits of other variables.

Sample
The investigator applied purposive sampling technique [2] and selected only the obese boys whose age fell in the range of 11 to 15 years without considering caste, creed and color. The height and weight were taken with the help of weighing machine and stadiometer BMI was calculated. The boys whose BMI ranged above 25 were said as obese. Borg and Gall (1979) [3] suggest that co- relational research require a sample size of no fewer than thirty cases, that casual comparative and experimental methodologies require a sample size of no fewer than fifteen cases and that survey research should have no fewer than 100 cases. Gratton and Jones (2004) [4].
The said technique was used by the researcher as per his feasibility and limitation of the recourses. For this he selected 20 obese boys from Chandrapur (South) High School, Agartala, Tripura permitted to conduct study and extended Co-operation for study. Out of 25 obese student (age ranged between 11 to 15) 20 student were selected considering their availability, willingness and parents' permission to participate as subject in experiment.

Objective
The objective of this study was to study the effect of exercise module on obesity, Physical fitness of only the obese boys whose age fell in the range of 11 to 15 years.

Hypothesis

H_1: There will be a significant effect of Physical activity program on Obesity, Physical fitness of obese boys.

Methodology

As the experiment was conducted on the school going obese boys selected 20 obese boys from Chandrapur (South) High School, Agartala, Tripura., For experiment, researcher used the Single group, pretest- posttest design. No comparison with a control group is provided [5]. Phases of the experiment are as follows.

No of St.'s Tested	Date of Pre test	Treatment Period	Date of Post test
20	2 Dec.2017	8 Weeks (2 Dec., 2017 to 25 Jan. 2018)	27 Jan. 2018

The Procedure of the Experimental Study: This selected subject of experimental group was undergoing the training of respective 'Exercise schedule' 60 to 65 minutes/day except Sundays and Holidays of the total period of eight weeks. This design provides some improvement over the first, for the effects of the treatment are judged by the difference between the pretest and the post test scores. The test item was conducted as the standard physical battery and the procedures described in the AAHPERED health related physical fitness test.

The following tests 9 minutes run-walk test ACSM's (2005) [6], Push-ups [7], Bent Knee Sit Ups Miller (2002) [8] and Sit and reach test (Miller. 2002) [9] were administered to assess Physical Fitness. Body mass index is also a good indicator of obesity but a problem with the BMI is that it does not differentiate between lean body mass and fat mass [10]. Therefore, now a day digital instrument for measuring body fat has been introduced which indicates direct percentage scores of body fat. Therefore, Omran's digital Fat Monitor was used.

Statistical Analysis: Mean, standard deviation and Paired sample 't' test were adopted for statistical analysis of data. Statistical Package for social Sciences (SPSS) MS windows Release 11.5 was used for statistical analysis.

Results

Analysis of data

To determine the performance between pretest and posttest following procedures were considered:

- Descriptive statistics of physical fitness variables
- Statistical Process to determine the significant difference between Pre and post test

Table 1: Descriptive analysis of experimental group (n= 20)

Variable	Test	M	Mode	Mdn	S. E. M	S.D.
Weight	Pre	60.35	51	59	1.68	7.55
	Post	57.65	56	56	1.59	7.15
BMI	Pre	27.03	25	26.35	0.47	2.12
	Post	25.8	24.24	24.94	0.45	2.02
Fat %	Pre	31.73	30.2	31.05	0.45	2.02
	Post	31.005	29.2	30.35	0.49	2.18
S.U.	Pre	14	13	14	0.65	2.9
	Post	16	15	16	0.65	2.94
P.U	Pre	4	2	4	0.54	2.47
	Post	6	4	6	0.56	2.51
S& R	Pre	15	14	15	0.38	1.71
	Post	15	16	15	0.38	1.69
R/ W	Pre	1107	1050	1100	16.33	73.04
	Post	1232	1250	1250	16.73	74.82

Mean – M - Std. Error of Mean -S.E.M.
Median – Mdn. - Std. Deviation - S. D.
Sit- Ups - S.U. - Push- Ups - P.U.
Sit & Reach - S & R - 9 min. Run & Walk - R/W

Descriptive statistics analysis of the physical fitness variables of experimental group

The mean score of the pre-test and post-test of weight are respectively 60.35 kg. (SD = 7.55 & 7-15), Mean of the BMI are respectively 27.03, 25.80 (SD = 2.12 & 2.02), Mean of the percentage body fat are respectively 31.73 & 31.05 (SD = 2.02 & 2-18), Mean of the muscular strength and endurance (Sit ups) are respectively 14 & 16 (SD = 2.90 & 2.94), Mean of the Muscular endurance (Push ups) are respectively 4 & 6 (SD = 2.47 & 2.51), Mean of the Flexibility are respectively 15 & 15 (SD = 1.71 & 1.69), Mean of the Cardiovascular endurance (9 min. R/W) are respectively 1107m & 1232 (SD = 73.04 & 74. 82).

Table 2: Difference between Pre and Post Test of the Experimental Group

Variables	Paired Differences		S. E. M	DF	Sig. (One-tailed)	*t*
	M	S. D.				
Wt.	2.7	1.78	0.39	19	1.77	6.78
BMI	1.23	0.78	0.17	19	1.07	7.03
Fat %	0.72	1.01	0.22	19	4.9	3.18
S. U.	2	1.28	0.28	19	4.96	6.28
P. U.	2	0.83	0.18	19	3.09	9.65
S.& R.	0.44	0.25	0.05	19	2.14	7.86
R/ w	93.75	28.53	6.38	19	7.91	14.69

Results of the experiment as presented in table- 2, revealed the following findings-

- The Paired difference in pre and posttest of Weight is (PD = 2.7) found statistically significant (6.78 > 0.05). It is interpreting that effect of physical activity programmed decline in weight of obese boys.
- The Paired difference in pre and posttest of BMI was (PD= 1.23) found statistically significant (7.03 > 0.05). It is interpreting that effect of physical activity programmed decline in BMI of obese boys
- The Paired difference in pre and posttest of percent body fat was (PD= 0.72) found statistically significant (3.18 > 0.05). It is interpreting that effect of physical activity programmed decline in Percent body fat of obese boys.
- The Paired difference in pre and posttest of muscular strength and endurance was (PD= 2) found statistically significant (6.28 > 0.05). Thus, it is interpreting that effect of physical activity programmed improve in muscular strength and Endurance (Sit ups) of obese boys.
- The Paired difference in pre and posttest of muscular endurance was (PD= 2) found statistically significant (9.65 > 0.05). Thus, it is interpreting that effect of physical activity programmed improve in muscular endurance (Pushups) of obese boys.
- The Paired difference in pre and posttest of flexibility was (PD= 93.75) found statistically significant (14.69 > 0.05). Thus, it is interpreting that effect of physical activity programmed improve in flexibility of trunk and posterior thigh muscle. (Sit and reach) of obese boys.

- The Paired difference in pre and posttest of cardiovascular endurance was (PD=93.75) found statistically significant (14.69 > 0.05). Thus, it is interpreting that effect of physical activity programmed improve in cardiovascular endurance (9 min. run/walk).
- It was hypothesized that There will be a significant effect of Physical activity program on Weight of obese boys. As seen in table-4.69, the t value for the weight, BMI, % body, muscular strength and Endurance (Sit ups), Muscular endurance (Pushups), flexibility of trunk and posterior thigh muscle and cardiovascular endurance (9 min. Run/Walk) which are significant at 0.05 levels, this hypothesis is accepted.

Conclusion

The results showed that due to physical activity program performance was increases in the component of physical fitness significantly and reduces the weight, BMI and percent body fat. There exists a significant effect of physical activity program on physical fitness variable of obese boys

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