Original Research Article

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Physical fitness and physical activity level in school going adolescent children

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ABSTRACT

Background: Adolescence is transitional phase between childhood and adulthood characterized by marked acceleration in growth. The objective of this study was to evaluate differences between the boys and girls in physical fitness and the variation in their physical activity at school going children at Pune.

Methods: The study was carried out at various schools in Pune city. Government, government aided (semi government), and private schools were selected according to different zones of the city using random sampling method. A self-administered youth physical activity questionnaire (Y PAQ) has been given for testing their level of physical activity. Physical fitness test such as curl-up test, 90° push-up test, trunk lift, back saver sits, and reach test were performed for analysing the physical fitness of the students.

Results: A total of 296 students, 142 boys (aged 13.47±0.04 years) and 154 girls (aged 13.40±0.03 years) were included in the study. The average/mean comparison demography between boys and girls for curl-up test showed 21.61±10.00 and 15.21±7.24 repetitions/min respectively. The average of 900 push-ups test between boys and girls were 12.72±7.31 and 5.12±3.25 repetitions/min respectively. The average/mean of Trunk lift test was 5.67±2.56 in boys and 5.12±2.45 inches in girls respectively.

Conclusions: The study concluded that there was lower fitness level as per calculation of healthy fitness zone seen amongst the school going children and also there were lower levels of their physical activity in day to day life. Also, study results show significant difference among the boys and girls in their physical fitness level.

Keywords: Adolescent, Curl-up test, Physical activity, Physical fitness, School children, Trunk lift test

INTRODUCTION

Physical activity has been put forward as a most important and modifiable factor to influencing people's health.1 Regular physical activity delays the onset of persistent disease and facilitates their control.2 Participation in regular physical activity has been associated with substantial health benefits.3 In the year 1959, the government of India launched a scheme of physical fitness in order to raise the physical fitness of the Indian youth.4 The scheme called National Physical Fitness Programme became popular throughout the country over the year and it involved nearly 25 lakh youth in the program of building and evaluating physical fitness.⁵ To reduce morbidity and mortality associated with sedentary lifestyle, the regular physical activities initiated most important role in it without late in life.6

Due to extreme academic competition to perform better at school, adolescent children are hardly seen at the playground. Moderate intensity regular physical activity is

essential for the prevention of overweight and obesity as well as for treatment of the same. For the achievement of similar results, adolescents should accumulate at least 60 minutes of moderate- to vigorous-intensity physical activity daily. The importance of physical activity; it should be resistance exercise to enhance strength in the large muscle groups of the trunk and limbs. Vigorous aerobic exercise to improve cardiovascular fitness, muscular strength, endothelial function, and glucose metabolism, all of which significantly reduce the morbidity associated with excess weight. For children, physical activity includes playing games, sports, transportation, recreation, physical education, or planned exercise, in the context of family, school and community activities.

Physical fitness provides protection against health risks, even among overweight children. Recently, EduSports conducted the seventh Annual School Health and Fitness Study (2016) in which they revealed that despite of gender, age or city- Body Mass Index (BMI) levels of school going children are not up to the mark.⁹

Adolescence is transitional phase between childhood and adulthood characterized by marked acceleration in growth. ¹⁰ Multiple factors have been observed from the literature to demonstrate the declining engagement of the children in regular physical activities. ¹¹ The objective of this study was to evaluate differences in physical fitness level and the variation in their physical activity of adolescent school going children.

METHODS

Study was a cross sectional study. There were 296 students enrolled by the researchers and into the study of standard 7th and 8th between the age of 13 and 14 years old were selected randomly according to inclusion and exclusion criteria.

Inclusion criteria

Various schools in Pune city included were government schools, government aided schools, private schools, schools willing to participate in the study and both genders were included in the study.

Exclusion criteria

Students having any known endocrine pathology, known respiratory problem, any known musculoskeletal problems and neurological problems were excluded from the study.

Study period was from May 2018 to April 2019.

Study procedure

The study was approved by institutional ethics committee. The permission was taken from respective

school administration for conduction of study and parental written consent was taken prior to the study.

Prior to the study, the test procedures were explained to the subjects in detail to ensure proper understanding and helpful co-operation, to obtain, and to measure reliable data from the tests. Physical fitness components like aerobic capacity represents VO₂ max (ml/kg/min), body composition represents Fat (%). Physical fitness test represents (muscular strength, endurance, and flexibility; no. of curl ups in one minute (repetitions/min), No. of 90° push-ups in one minute (repetitions/min), back saver sit and reach test distance (inches), and trunk lift distance (inches)) were carried out. Also, physical activity level was assessed with the help of youth physical activity questionnaire Y PAQ. 12 The A pilot study was conducted on 30 students in order to know the practical difficulties in the administration of tests. After this, corrections were done, and procedure was finalized and standardized.

Aerobic capacity

Authors had measured an aerobic capacity-VO2 max on individual/children. Aerobic capacity indicates the ability of the cardiovascular, respiratory, and muscular systems to take up, transport, and utilize oxygen during exercise and activity.

One-mile test was performed over a 1 mile measured distance. The objective was to run 1 mile at a comfortable pace. The time to run the mile (in min and seconds) and the heart rate at the end of the test was recorded.¹³

Body composition

Body composition was measured by anthropometric data i.e. BMI and percent body fat. BMI was calculated from measurements of weight and height, and percent body fat was analyzed by body fat analyzer machine (TANITA) for both control and experimental groups. According to BMI values of children was categorized into normal, overweight and obese. ¹³

Curl-up test

Test instructions: Subject was asked to lie in a supine position on the mat, knees bent at an angle of approximately 140°, feet flat on the floor, legs slightly apart, arms straight and parallel to the trunk with palms of hand resting on the mat. The fingers were stretched out and head was in contact with the mat. Subject was asked to extend his/her feet as far as possible from the buttocks while still allowing feet to remain flat on the floor. A piece of paper was placed under student's head. This assists in judging if student's head touches down on each repetition. The observer watched for the paper to crinkle each time student touches it with his or her head. A measuring strip was placed at the start of fingertip. Keeping heels in contact with the mat, subjects were asked to curl up slowly, sliding fingers across the

measuring strip until fingertips reach the other side; and then he or she curled back down until his or her head touches the piece of paper on the mat. Figure 1 shows the curl up test. ¹³

90° push-up test

The subjects being tested were asked to assume a prone position on the mat with hands placed under or slightly wider than the shoulders, fingers stretched out, legs straight and slightly apart, and toes tucked under. The subject pushed up off the mat with the arms until arms are straight, keeping the legs and back straight. The back was asked to keep in a straight line from head to toes throughout the test. Figure 2 shows the 90-degree pushups test. ¹³

Trunk lift

Test instructions: The subjects being tested were asked to lie on a mat in a prone position (facedown). Toes were pointed and hands were placed under the thighs. A marker was placed on the floor in line with subject's eyes. During the movement, subjects were asked not to move their focus from the marker. Figure 3 shows the trunk Lift test.¹³

Back saver sit and reach test

Test instructions: The students were asked to remove their shoes and sit down at the test apparatus. One leg was fully extended with the foot flat against the face of the box. The other knee was bent with the sole of the foot flat on the floor. The instep was placed in line with, and 2 to 3 inches to the side of, the straight knee. The arms were extended forward over the measuring scale with the hands placed one on top of the other, Figure 4 shows the back saver sit and reach test.¹³

Statistical analysis

All the statistical analysis was performed by using Student's unpaired t test, analysis of the variance (ANOVA). Categorical data were presented as mean±standard deviation. All data were processed using the Statistical Package for Social Sciences, SPSS version 22.0 (SPSS, Chicago, IL, USA) and p<0.05 is considered as level of significance.



Figure 1: Curl up test.



Figure 2: 90 degree push-ups test.



Figure 3: Trunk lift test.



Figure 4: Back saver sit and reach test.

RESULTS

By using student's unpaired t test, Analysis of the Variance (ANOVA) showing mean age of boys was 13.47±0.04 and girls were 13.40±0.03. The mean height of boys and girls were significant 142±0.08 and 154±0.004 (p=0.003). Also, the average/mean weights of boys and girls were 43.25±10.90 Kg and 44.24±8.74 Kg respectively. The childrens' age and height were fall in 99.9 percentile.

Table 1 shows the ANOVA of the demographic characteristics among boys and girls. It shows demographic characteristics i.e. age, height and weight among boys as well as girls. Height of boys and girls shows significant (p=0.003) changes.

By using Student's unpaired 't' test, ANOVA showing VO₂ max with significant (p<0.0001) changes among boys and girls. Table 2 shows the Boys mean 32.54 ± 5.08 ml/kg/min and Girls mean 29.21 ± 5.02 ml/kg/min shows significant results.

Table 1: ANOVA of the demographic characteristics among boys and girls.

		N	Mean±SD	P value
Age	Boys	142	13.47±0.04	0.22 NG
(yrs)	Girls	154	13.40±0.03	0.22, NS
Height	Boys	142	1.55±0.09	0.003, S
(m)	Girls	154	1.52 ± 0.06	0.005, 5
Weight	Boys	142	43.25±10.90	0.38, NS
(Kg)	Girls	154	44.24±8.74	U.36, NS

^{*}S: Significant, NS: Non-significant.

Table 2: Comparison ANOVA of physical fitness with significant (p<0.0001) changes among boys and girls.

Test		N	Mean±SD	P value	
VO ₂ max	Boys	142	32.54±5.08	0.0001,	
(ml/kg/min)	Girls	154	29.21±5.02	S	
Body fat	Boys	142	16.38±5.40	0.0001,	
(%)	Girls	154	22.16±4.67	S	
Curl-ups	Boys	142	21.61±10.00	0.0001,	
(repetitions /min)	Girls	154	15.21±7.24	S S	
Push-ups	Boys	142	12.72±7.31	0.0001,	
(repetitions /min)	Girls	154	5.12±3.25	S.0001,	
Trunk lift	Boys	142	5.67±2.56	0.059,	
(inches)	Girls	154	5.12±2.45	NS	
	Right	(%)			
	Boys	142	9.62 ± 1.88	0.021 \$	
Sit and	Girls	154	9.10±2.22	0.031, S	
reach (%)	Left (%)			
	Boys	142	9.46±1.92	0.085,	
	Girls	154	9.04 ± 2.22	NS	

^{*}S: Significant, NS: Non-significant.

The comparison of FITNESSGRAM with VO₂ max and body fat (%) for boys and girls at the age group of 13 and 14-year-old (Table 3).

When compared with the current study results mean value for vo2 max showed to be 32.54 ml/kg/min in boys concluded that the aerobic capacity of boys was falling under needs improvement zone (NIZ) and can be considered to be having their aerobic capacity in poor to fair condition.

Similarly, as per fitness gram measure used in this study for girls of age between 13 and 14, aerobic capacity of \geq 39.7 to \geq 39.4 ml/kg/min consider as fall under HFZ. When compared with the current study results showed 29.21 ml/kg/min in girls concluded that the aerobic capacity of girls was falling in HFZ and can be considered to be having their aerobic capacity in very good condition. It shows VO₂ max values with significant (p<0.0001) changes among boys and girls.

Table 3: Comparison of fitnessgram with VO_2 max and body fat (%) for boys and girls at the age group of 13 and 14-year-old.

Aerobic	capacity	VO ₂ max (1	ml/kg/min)	
Age (yrs)	NI- Health risk	NI	HFZ	This study value
Boys				
13	≤38.6	38.7-41.0	≥41.1	32.54±5.08
14	≤39.6	39.7-42.4	≥42.5	(NI-Health risk)*
Girls				
13	≤36.6	36.7-39.6	≥39.7	29.21±5.02
14	≤36.3	36.4-39.3	≥39.4	(NI-Health risk)*
Body fat	: (%)			
Boys				
13	≥35.0	22.9	7.8-22.8	16.38±5.40
14	≥33.2	21.4	7.1-21.3	(HFZ)**
Girls				
13	≥36.3	27.8	13.4-27.7	22.16±4.67
14	≥36.8	28.6	14.0-28.5	(HFZ)**

^{*}Values are falling under NI-Health Risk, **Values are falling under health fitness zone.

As shown in Table 2, comparison of body fat percentage was significantly increased in girls as compared to boys using Student's unpaired t test.

As per HFZ shows age 13 and 14 boy's number of body fat (%) of 7.8-22.8 to 7.1-21.3 means they are good in their fat (%). When compared with the current study showed 16.38 in boys concluded that the fat (%) of boys were in good condition.

Same as in girl's age 13 yrs and 14yrs, fat (%) of 13.4-27.7 and 14.0-28.5 means they are good in their Fat (%) as per HFZ. When compared with the current study, results showed 22.16 in girls which concluded that the fat (%) of girls were within normal values, but on higher side as compared to boys.

Comparison of fat (%) was significantly increased in girls as compared to boys using Student's unpaired t test as shown in Table 2.

By using Student's unpaired t test, ANOVA showing comparison of number of curl-ups were significantly (p<0.0001) increased in boys' contrast to girls as shown in Table 2 and Figure 1 shows the curl-up test.

It represented the number of curl ups was significant (p<0.0001) increased in boys as compared to girls by using student's unpaired t test. 49% of boys fall in HFZ whereas, 51% subjects fall in "Needs improvement (NI)" zone.

As per HFZ shows age 13 and 14 boy's number of curlups of \ge 21 to \ge 24 repetitions they are good in their curlups. When compared with the current study showed mean value of 21.61 \pm 10.00 repetitions in boys concluded that the curl-ups of boys were falling under HFZ i.e. they can be considered having good performance in the test as per the age matched standards.

Same as in girls age 13 and 14 curl-ups of \geq 18 repetitions they are falling under HFZ in curl up test and can be considered good performance in their curl-ups as per HFZ. When compared with the current study showed mean value of 15.21 \pm 7.24 repetitions in girls concluded that the curl-ups of girls were in low condition. The Curl-ups test of boys was good as compared with girls.

By using student's unpaired t test, ANOVA showing number of push-ups was significantly increased in boys compared to girls as represented in Table 2.

As per HFZ shows age 13 and 14 boy's number of pushups of \geq 12 to \geq 14 repetitions they are good in their pushups. When compared with the current study showed 12.72 \pm 7.31 repetitions in boys concluded that the pushups of boys were under HFZ.

Same as in girl's age 13 and 14 push-ups of \geq 7 repetitions they are falling under need improvement zone. When compared with the current study showed mean value of 5.12 ± 3.25 repetitions in girls concluded that the push-ups of girls were in low condition. The push-ups test of boys was good as compared with girls.

As shown in Table 2, comparison of number of pushups was significant increase in boys compared to girls. Figure 2 shows the 2.90-degree spush-ups test.

By using Student's unpaired t test, ANOVA showing comparison of Trunk Lift (inches) was significantly (p<0.059) changes among boys and girls as shown in Table 2. 15% of boys fall in HFZ whereas85% subjects fall in NI zone.

As per HFZ shows age of 13 and 14 boy's the number of trunk Lift of 9-12 inches to 9-12 inches resulting they are good in their Trunk Lift for age matched results. When compared with the current study showed mean value of 5.67±2.56 inches in boys concluded that the Trunk Lift of boys was falling in needs improvement zone.

Same as in girl's age 13 and 14 trunk lift of 9-12 inches to 9-12 inches means they are good in their Trunk Lift as per HFZ. When compared with the current study showed 5.12±2.45 inches in girls concluded that the Trunk Lift of girls was falling in needs improvement zone. Comparison of Trunk Lift (inches) among boys and girls shown significantly below the average value (p<0.059) as summarize in Table 2. Figure 3 shows the trunk lift test.

By using Student's unpaired t test, ANOVA showing comparison of sit and reach shows significantly increased in girls as compared to boys as shown in Table 2. Back saver sits and reach test; 85% of boys fall in HFZ whereas 15% subjects fall in NI zone.

By using student's unpaired t test, comparison of sit and reach shows significantly increased in girls as compared to boys as shown in Table 2. Figure 4 shows the Back saver sit and reach test.

Statistical analysis was done by using descriptive and inferential statistics using student's unpaired t test and software used in the analysis was SPSS 22.0 version and p<0.05 is considered as level of significance.

For physical activity level, data analysis was done using SPSS version 20. There were total of 296 boys and girls were enrolled into this study. The youth physical activity Questionnaire was given to the students and was asked to fill it based on the daily activity of the students. The questionnaire content was based on how much time they spent on their daily sports and other activities (day's activity) and has been divided into Monday to Friday time period and Saturday-Sunday time frame as shown in Table 4. Weekly activity and daily score of boys and girls shows, score up to 1 to 5 i.e., Excellent (High) = 5, Very Good = 4, Satisfactory = 3, Fair = 2, Poor (Low) = 1. The score was given to the students on the basis of their activity and performance. The Maximum mean score (5) was observed in the following activities; Aerobics, Basketball/volleyball, Rugby, Running or Jogging, Swimming lessons, bike riding (not school travel), bowling, play with pets/ horse riding, skateboarding, physical education class, travel by cycling to school (2 times), playing board games / cards, reading, talk on the phone daily and weekly activity score presented in Figure 5 and Figure 6 respectively.

The mean±sd activity of Mon-Fri (Min) was 30.5±8.76, and Saturday-Sunday (Min) was 25.5±5.04. The analysis shows this difference is considered to be very statistically significant p value 0.0025 shown in Table 4.

Based on above interpretation, authors found that overall physical fitness profile for both adolescent boys and girls were on lower levels when compared to the normal standards set by fitness gram programmed for these age group. In this study, out of 296 students participated, we have found that; distribution of VO₂ max values for boys were on an average as compared with girls' students of same age group. Curl ups test shows significantly on higher side in boys than girls. Trunk lift test shows significant on higher side in boys than girls. Sit and reach test were slightly active in girls as compared with boys. Also, we have found out that fat % was significantly on higher side in girls than in boys.

Table 4: Weekly activity and daily score of boys and girls.

Activities	Mean score	Monday to Friday (min)	Saturday to Sunday (min)
Aerobics	5	40	20
Baseball/softball	4	30	30
Basketball/volleyball	5	30	20
Cricket	2	20	30
Dancing	3	40	30
Football	3	20	20
Gymnastics	2	30	30
Hockey (field)	1	30	30
Netball	4	40	20
Rugby	5	20	30
Running or jogging	5	40	20
Swimming lessons	5	20	20
Swimming for fun	4	30	20
Tennis/badminton/squash/other racquet sport	2	30	30
Bike riding (not school travel)	5	30	30
Trampolining	3	40	20
Bowling	5	30	20
Household chores	2	40	20
Play on playground equipment	4	30	20
Play with pets / horse riding	5	40	30
Rollerblading/roller-skating	2	20	20
Skateboarding	5	30	30
Skiing, snowboarding, sledging	1	40	30
Skipping rope	2	20	20
Walk the dog	3	40	20
Walk for exercise/hiking	4	40	30
Physical education class	5	40	30
Travel by walking to school	4	20	30
(to and from school =2 times)	•	*	
Travel by cycling to school (to and from school =2 times)	5	20	30
Watching TV/videos	3	20	30
Art and craft (e.g., pottery, sewing, drawing, painting)	2	40	30
Doing homework	1	40	30
Listen to music	3	20	20
Play indoors with toys	4	40	30
Playing board games / cards	5	20	30
Playing computer games (e.g., play station /game	2		
boy)	2	40	20
Playing musical instrument	1	20	30
Reading	5	40	20
Sitting talking	4	20	30
Talk on the phone	5	20	20
Days	Mean±SD	p value	
Monday to Friday (min)	30.5±8.76	0.0025 (S)	
Saturday to Sunday (min)	25.5±5.04	a_significant	

^{*}Score=excellent (high)=5, very good=4, satisfactory=3, fair=2, poor (low)=1, s=significant.

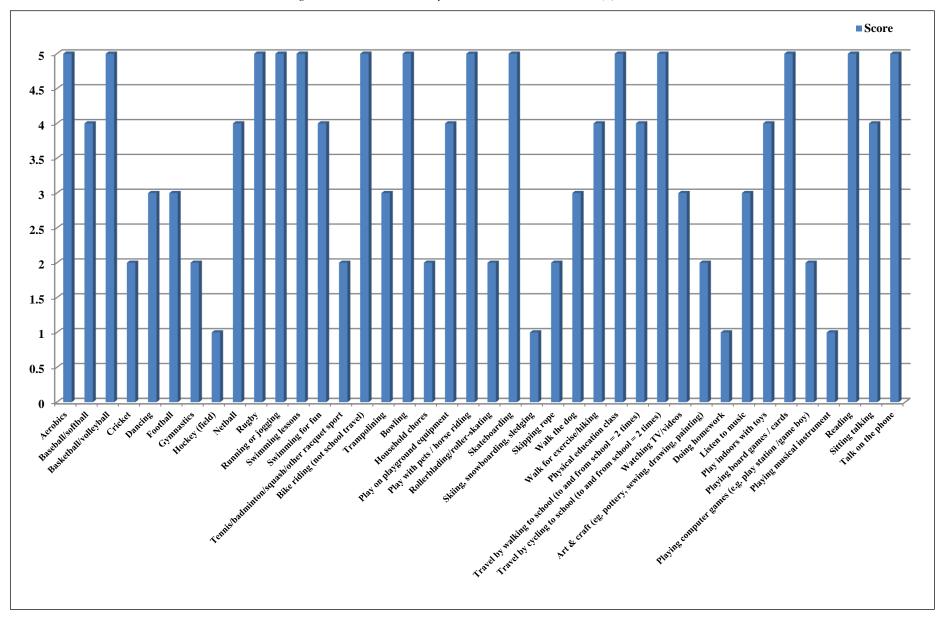


Figure 5: Daily activity score of girls and boys.

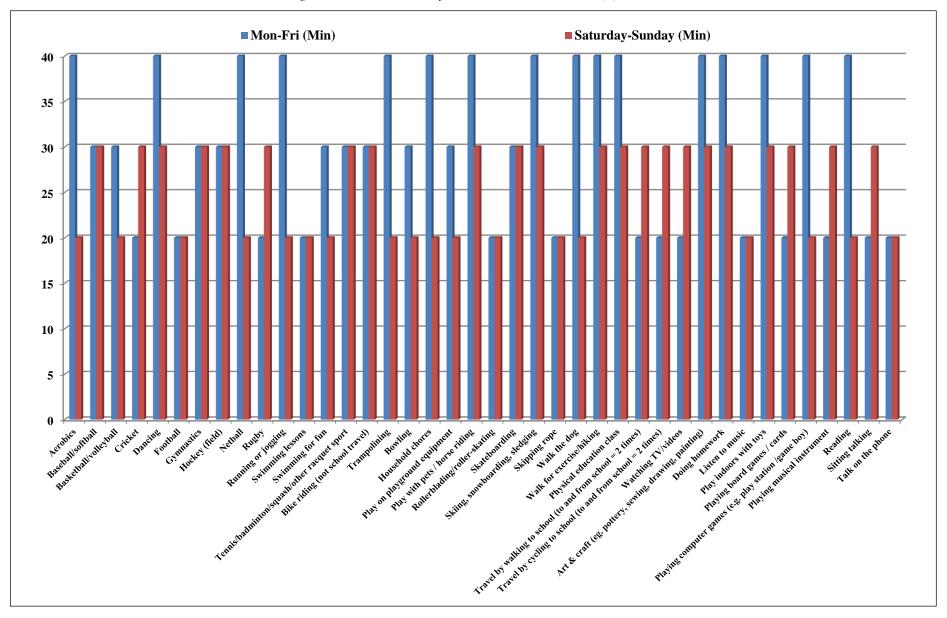


Figure 6: Weekly activity minutes of girls and boys.

DISCUSSION

The prevalent inactive lifestyle of children in developed countries is associated with a multitude of harmful trends including obesity, early diabetes mellitus, and hypertension. The main effect of the anthropometric characteristic was demonstrated in the majorities of the physical test items expect flexibility with higher performance for boys and girls in Vo2 max, no. of curl up, no. of pushups, trunk lift, fat %, sit and reach (right and left). The objectives of this study was undertaken in order to find out the physical fitness level of adolescent school going children.

These results were compared with the normal standards values set by fitness gram programme. 13 This study results suggest that, among physical fitness profile in Pune School children for both the boys and girls, authors found that overall physical fitness profile for both boys and girls were on lower levels when compared to the normal standards set by fitness gram programmed for these age group. In this study, out of 296 students participated, authors have found that distribution of VO₂ max values for boys were on an average as compared with girls' students of same age group, curl ups test shows significantly on higher side in boys than girls, trunk lift test shows significant on higher side in boys than girls, sit and reach test were slightly active in girls as compared with boys. Also, we have found out that fat % was significantly on higher side in girls than in boys.

The results of this study are similarity with the results done by Walther et al, which confirmed that, the concern about the rapidity of increasing the prevalence of lower level physical fitness level among school going children. 14-16

In this study the average percentage of fat values were seen in girls as compared to boys. The probable reason for such outcomes to be seen in this study is may be because of girls having lack of physical activities, hormonal changes, and over food consumption.^{17,18}

The HFZ begins at 25% fat for the boys and 32% fat for girls. There is an optimal range within the HFZ. In general, students who have percent fat values indicating excessive body fat (i.e., not in the HFZ) should be encouraged to work toward this area by slowly changing their body weight through increased physical activity and decreased consumption of high fat, high calorie, low nutritional value foods.¹⁹

The underlying mechanism of excess of fat still not well understood. However, it's confirmed that (i) these phenomenon occur when energy intake exceeds energy expenditure due to the decreased physical activity and increased intake of energy-dense foods (high in fat and sugars; low in vitamins, minerals and other healthy micronutrients) and (ii) that environmental and genetic

factors, lifestyle preferences (e.g., quality of life), and cultural environment (e.g., father's and mother's education and occupation) seem to play major roles in the rising prevalence of fat.^{8,20-23} Similar study done by Kimm SY et al., shows that there is Substantial declines in physical activity occur during adolescence in girls and are greater in black girls than in white girls.²⁴

Furthermore, the students were given the youth physical activity questionnaire which includes the questions on their daily physical activity (play, games, and sports). The score excellent, very good, satisfactory, fair, poor were taken on the basis of student daily performance and activity. Also, the total minutes counted Monday to Friday time period and Saturday-Sunday time frame of the students on the basis of student daily activities. The results were significant as per activity and performance of the students.

The maximum mean score (5) was observed in the following activities; aerobics, basketball/volleyball, rugby, running or jogging, swimming lessons, bike riding (not school travel), bowling, play with pets / horse riding, skateboarding, physical education class, travel by cycling to school (to and from school = 2 times), playing board games/ cards, reading, talk on the phone.^{26,27}

In this study, authors have given youth physical activity questionnaire to the students to determine how much their physical activity level was in their day to day life. Surprisingly, results showing that 40% of the populations were falling under the low level of physical activities.²⁸

The worldwide increase in obesity rates has been too rapid to consider genetic factors as the primary cause, and therefore changes in young people's lifestyles; in particular an increase in sedentary behavior and a concomitant decline in physical activity have been the focus of most discussions. However, behavioral traits, which become quite rigid in adult life, may still be amenable to changes in childhood. Therefore regular physical activity may result in a long-lasting positive effect on an active lifestyle.²⁴ However, overall performance of the children who are obese or overweight (16.38 in boys and 22.16 in girls) was on lower side as that with compared to normal weight children, especially VO₂ max which is used to measure maximum oxygen consumption by the body.²⁹ As per fitness Gramm study for boys of age between 13 and 14, aerobic capacity of ≥41 - ≥42.5 ml/kg/min consider as fall under HFZ. In the study done by Khaire et al they found that the children that the children having more fat% in the body have poorer quality of life with respect to the physical, emotional, social, school functioning domains and total quality of life than normal children.³⁰ These findings in this study are reliable with the study done by Abdel-aziz et al and statement that children who were overweight have a significantly worse physical functioning than children with normal BMI.31 In this context, it should be

noted that the reduction in the levels of physical fitness among overweight children could contribute to negative physical and mental health and persistence of fat into adulthood later in life.³²

Similarly, in this study authors have found, out of 296 children among 77 (26.01%) overweight and obese children, and 54 (19.49%) were underweight children also have lower fitness level. According to World Health Organization (2015) forecasts that youth who are overweight or obese will likely continue to be overweight or obese as adolescents and adults if an intervention is not presented.¹⁷ These results suggest that similarly to the attention to overweight problems, more attention are also needed to control the abnormal decrease in body weight and prevent its undesirable consequence on children's physical fitness. The conclusion of study showed a high percent of fat and underweight subjects among children from various schools in Pune. This abnormal raise or reduce in body weight influences negatively the calculated physical fitness levels. Thus, overweight as well as underweight childhood should be more concerned by the pediatric physicians with paying attention to the updated health information regarding the development of effective programs and strategies to prevent childhood body weight problems. Such programs should be based on multi-sector, multidisciplinary, and culturally relevant.

Study done by A. Colin Bell et al concludes that a written physical activity policy, structured staff-led physical activity and staff joining in active play were associated with higher levels of physical activity.³³ Hence, physiotherapy team jointly can introduce fitness programmed activity in the schools apart from their regular physical education classes in order to implement fitness among school going adolescent children for their healthy future.

CONCLUSION

The study was successfully evaluated the differences between the boys and girls in physical fitness and the variation in their physical activity. The study concluded that there was lower fitness level seen amongst the school going children due to lack of physical activity now a day. Also, it has to be resolved by implementing the physical fitness activities or exercises in their routine school activities. So, there is a requirement that more students (boys and girls) should be engaged in physical activity by increasing the duration of physical education class, engaging children in one of the physical activity at least 3 times per week and the motivation of the parents to engage their children's in high level of score and physical activity, which reduces the health risks.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

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