Introduction

Physical Fitness’ is the ability to meet the demand of your environment or lifestyle and have some stored energy utilize the leisure time and meet the emergency. The term ‘Physical Fitness’ and ‘Motor Fitness’ are often used in relation however motor fitness is a broader concept which includes both physical fitness and motor ability factors. The president’s council on physical fitness and sports (Clarke, 1971) described physical fitness having three basic components: muscular strength, muscular endurance and circulatory-respiratory endurance. Motor fitness includes there three physical fitness components, plus four additional factors: Muscular power, agility, speed and flexibility.

Body composition is used to describe the percentage of body fat, bone, water and muscle in human bodies. Because muscle tissue, takes up less space in the body than fat tissue, body composition, as well as weight, determines leanness. The evaluation of body composition permits quantification of the major structural component of the body muscle, bone and fat. From the studies of a number of researchers, it appeared that in case of normal younger man 18-24 years the body fat percent varies between 4.2-18.7 percent. In case of older man (27-50 years), it is about 13-26 percent. On the other hand, for younger women (17-25 years) it is 17-28 percent and in case of older women (30-35 years) 22-39 percent. However, among athletes the percent of the body fat is relatively lower than the sedentary person. The distributions of body fat percent in male and female international athletes are as follows (Mc Ardle et al. 1991).

Regular exercise has positive effects on children’s somatotype classifications and anthropometric characteristics (Berg et al., 1995) [1]. Since there is a relationship especially between body height and many physical and physiological characteristics, these display significant effects on exercise and certain games (Docherty, 1996) [2]. The general aim of studies on body height, structure and composition is to determine and develop physical fitness individually (Artioli et al., 2008) [3] and suitable anthropometric profile and body composition for physical activity are important (Canhadas et al., 2010) [4]. There is a strong relationship between physical activity and body composition (Reicherte et al., 2012) [5].
2. Purpose of the Study
The purpose of the study were –
1. To measure the selected Physical fitness components of National level female football players.
2. To measure the body composition of National level female football players.
3. To determine relationship between physical fitness and Body Composition of National level female football players.

3. Methodology
To observe the physical fitness and Body composition of National level female football player 22 Subjects were selected from Purba Medinipur district Sports Association in West Bengal. The age of the subjects was from 14 to 18 years. In the present study, Age, Height, and Weight were considered as personal data. For the Physical fitness AAHPERD youth physical fitness test battery and for body composition 4-Site Skin fold Body Fat Calculator (Jackson-Pollock Formula) UPDATED were selected as the measuring criteria.

All the subjects were performed of the test with in stipulated time. The test includes flex arm hang for muscular endurance and strength of arm, bent-knee sit up for abdominal muscular strength,4 X10 meter shuttle run for agility, standing broad jump for explosive strength, 50yard dash for speed and 600yard run for cardio vascular endurance. The subject were encouraged and instructed to perform their best. All the tests were conduct through standard procedure as par test manual and all the raw scores were converted into standard score according to the AAHPERD norms. For measured the Body composition of the subjects 4-Site(i.e Triceps, Suprailiac, Umbilicus and Mid-thigh) Skin fold Body Fat Calculator (Jackson-Pollock Formula) UPDATED technique was used.

4. Result and Discussion
4.1 Analysis of Personal Data
Table 1: The Mean and SD value of personal data of the subjects

| Personal data       | (Mean & SD)    |
|---------------------|----------------|
| Age (Yrs.)          | 16.45±1.14     |
| Height (cm)         | 156.45±6.37    |
| Weight (kg)         | 42.41±3.72     |

From the table no. 1 we can see that the Mean value and the SD of age were 16.45±1.14 on the other hand Mean value and SD of height were 156.45±6.37 of the Mean value and SD of weight were 42.41±3.72 respectively.

Table 2: The Mean and SD value of physical fitness components and Body Composition of the subjects

| Descriptive Statistics | Mean | Std. Deviation |
|------------------------|------|----------------|
| Total Physical fitness | 374.42 | 38.68          |
| Flex arm hang in number| 94.81  | 2.25           |
| Sit up in number       | 85.62  | 9.11           |
| Shuttle run second     | 40.68  | 19.35          |
| SBJ in feet            | 49.89  | 15.88          |
| 50 yard timing in second | 49.09 | 20.16          |
| 600 yard timing in second | 54.34 | 7.94           |
| Body fat %             | 15.95  | 1.88           |
| Fat mass in kg         | 6.46   | 1.44           |
| Lbm in kg              | 34.66  | 4.71           |

From the table no 2 it was found that the mean and SD value of total physical fitness of National level female football player were 374.42 and 38.68 respectively.
The mean and SD value of Flex arm hang of National level female football player were 94.81 and 2.25 respectively.
The mean and SD value of Bent-knee sit up of National level female football player were 85.62 and 9.11 respectively.
The mean and SD value of Shuttle run of National level female football player were 40.68 and 19.35 respectively.
The mean and SD value of standing broad jump of National level female football player were 49.89 and 15.88 respectively.
The mean and SD value of 50 yrd run of National level female football player were 49.09 and 20.16 respectively.
The mean and SD value of 600 yrd run of National level female football player were 54.34 and 7.94 respectively.
The mean and SD value of Body Fat % of National level female football player were 15.95 and 1.88 respectively.

The mean and SD value of Fat mass of National level female football player were 6.46 and 1.44 respectively.
The mean and SD value of Lean body mass of National level female football player were 34.66 and 4.71 respectively.

Table 3: The Pearson Correlations value of physical fitness components and Body Composition of the subjects

| Pearson Correlations | Body fat % | Fat mass | LBM   |
|----------------------|------------|----------|-------|
| Total Physical fitness | -0.119     | -0.266   | -0.298|
| Flex arm hang        | -0.203     | -0.037   | -0.040|
| Sit up               | -0.098     | 0.336    | 0.453*|
| Shuttle run          | 0.232      | 0.048    | -0.231|
| SBJ                  | -0.124     | -0.146   | 0.018 |
| 50 yard run          | 0.061      | -0.406   | -0.404|
| 600 yard run         | 0.275      | -0.230   | -0.408|

* Correlation is significant at the 0.05 level: DF=20,*r* value=0.423 at 0.05 level.
From the table no- 3 it was observed that a significant relationship was found between Sit-ups and Lean Body Mass. The level of significant at 0.05 level and the significant value was found to be 0.453 respectively. Whether no other significant relationship were found among Total Physical Fitness, Physical Fitness components and Body Composition variables of National level female football players.

5. Conclusion

Body fat percentages can be classified as very lean, lean, normal, overweight and obese according to the 4-Site Skin fold Body Fat Calculator (Jackson-Pollock Formula) UPDATED. Because female typically have more body fat than male, each gender has distinct percentage ranges. For female, 0.00 to 12.2 percent of body fat is considered as very lean, 12.3 to 19.2 percent body fat is lean, 19.3 to 28.9 percent body fat is normal, 29.0 to 35.9 percent body fat is overweight and 36.0 to above is obese categories.

On the basis of this norm the following conclusion has been drawn;
1. The National female football players were found having more lean body mass.
2. The fat mass was found less in National female football players.
3. AAHPERD Youth Physical Fitness test was conducted to measure physical fitness and it has been found that the National female players have above average Physical Fitness.
4. After calculate the Pearson correlations a significant relationship was found between Sit-ups and Lean Body Mass.

6. References

1. Berg KE, Lavoie JC, Latin RW. Physiological training effect of youth soccer. Medicine Science Sports Exercise. 1995;17(6), 656-60.
2. Docherty D. Measurement in Pediatric Exercises Science. Human Kinetics, Champaign, IL. 1996.
3. Artioli GG, Gualano B, Franchini E, Batista RN, Polacow VO. Lancha AH. Physiological, performance, and nutritional profile of the brazilianolympicwushu (kung-fu) team. Journal of Strength and Conditioning Research. 2008, 1-6.
4. Canhadas IL, Lopez R, Silva P, Rodrigues C, Leslie C, Portes A. Anthropometric and physical fitness characteristics of young male soccer players. Brasilian Journal of KInanthropometry. 2010;12(4):239-245. http://dx.doi.org/10.5007/1980-0037.2010V12N4P239
5. Reichert FF, Menezes A, Hallal P, Ekelund U, Wells J. Objectively measured physical activity and body composition indices in Brazilian adolescents. Brazilian Journal of Physical Activity and Health 2012;17(6):573-584. http://dx.doi.org/10.12820/2317-1634.2012v17n6p573
6. Shahtahmasebi S, Cassidy B. Women’s perception of body shape/weight and health: a measurement problem. International Children Adolescent Health 2015, 8(3).
7. Nebahat Eler. The Relationship between Body Composition and Physical Fitness Parameters in Children; International Education Studies 2018, 11(9).
8. Singh, Simerjeet. Sharma RM, Singh Hardayal. “A Comparative Study of Motor Abilities of Attackers Set-uppersin Volleyball”. NIS Scientific Journal, 1994, 17:11.
9. Brewer J. Nutritional Aspects of Women's Soccer.