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Loitongbam Baby Sujata Devi
Department of Physical
Education and Sports Science
Manipur University, Canchipur,
Imphal West, Manipur, India

T Inaobi Singh
Professor, Department of
Physical Education and Sports
Science Manipur University,
Canchipur, Imphal West,
Manipur, India

Comparative study of body composition between fencing and thang TA players of Manipur

Loitongbam Baby Sujata Devi and T Inaobi Singh

Abstract

Objective: The present study has been design to investigate the body composition of Fencing and Thang Ta players of Manipur.

Materials and Method: For the study a total 30 male players (15 Fencing and 15 Thang Ta) were randomly selected from those who participated in national level competition. Their ages range between 17-19 years. Lange skin fold caliper were used to measure the 4 skin fold sites (bicep, triceps, suprailiac and sub scapular). Durnin and Womersly 4 skinfold formula was used to determine percentage of body fat. Total body fat is obtained by multiplying, the body weight by percentage of body fat. Lean body weight is given by subtracting the total body weight from total body fat. The data was analyzed by applying ' t ' test using ms excel pak in order to determine the difference in body composition between Fencing and Thang Ta players.

Conclusion: No significant difference was observed between the body composition of Fencing and Thang Ta players.

Keywords: Body composition, Thang Ta, Fencing, bicep, triceps, suprailiac, sub scapular skin fold

1. Introduction

Manipur are conducive to various types of games and sports. Body composition determines the proportion of fat and fat free mass in the body. The fat varies with age sex and desirable body fat depends on sports training level, energy intake. Assessment of body composition enables to improve performance^[1]. When athlete is aware of their body composition, it helps to outline the areas that need further attention. A proper training regimen is effective in changing muscles and fats^[2]. Body composition contributes to ones physical output as it require to carry one's own weight over a distance which is facilitated by large proportion of active tissue in relation to a small proportion of inactive tissue^[3]. Pre-seasonal assessment enables to optimize the performance by identifying any deviation in performance output is important to specific sport^[4]. Fencing and Thang ta require quick and rapid mobility to counter the opponent to uncertain situation. Body composition matter as weight has effect on the athlete's ability to responds to the opponent stimuli.

2. Methodology

2.1 Subjects

Total 30 male subjects were selected for this study. 15 Fencing players from youth affairs and sports, Khuman Lampak and 15 Thang Ta players from Thang Ta training centre, Yumnam Huidrom who participated national level competition. Their aged were 17-19 years.

2.2 Variables

1. Percentage of body fat
2. Total body fat
3. Lean body weight.

2.3 Data collection

Data were collected in the month of October 2017 when they were attending their regular classes. Necessary instruction were given to the subject before administration of test. Data were collected during evening training session.

Corresponding Author:

T Inaobi Singh

Professor, Department of
Physical Education and Sports
Science Manipur University,
Canchipur, Imphal West,
Manipur, India

2.4 Tests: Following test were administrated for the present study

1. Percentage of body fat: Four site skin fold measurement using Lange skin fold caliper that measure Bicep skin fold, triceps skin fold, suprailiac skinfold, subscapular skin fold.

- a) **Biceps:** The anterior surface of the arm above the biceps branchii muscle, at the same level as the arm girth; the fold run vertically; the arm is completely relaxed with palm of hand facing forward.
 - b) **Triceps:** The fold run vertically; measured on the posterior surface of the arm above the triceps branchii muscle, half the distance between the bony tip of the acromion and olecranon. The arm is relaxed hanging by side.
 - c) **Suprailliac:** The fold runs vertically at the anterior surface of the thigh, above the quadriceps femoris muscle; measured at the half distance between the trochanterion and tibiale landmarks; the subject stand with feet slightly apart
 - d) **Subscapular:** The fold run slightly obliquely along the rib line; measured directly below the bottom angle of the shoulder blade.
2. Total body fat is obtained by multiplying, the body weight by % of body fat.
 3. Lean body weight is given by subtracting the total body

weight from total body fat

2.5 Tools and Technique

To measure the body composition we used Lange skin fold caliper to measure the four skin fold sites. We used Durnin and Womersly four site skin fold method to determine the body fat percentage.

2.6 Statistical Method

1. To obtain data were analyze by applying “t” test using excel analysis tool pak in order to determine the body composition between Fencers and Thang Ta players.
2. The level of significance was set up at 0.05.
3. The data was analyzing using spss software to obtain more reliable result.

3. Discussion and Finding

Table I shows the comparison of means of selected body composition variables of Fencers and Thang Ta players. In percentage of body fat the mean value of Fencers and Thang Ta players are 16.02 and 15.72 respectively. In Total body fat the mean value of Fencers and Thang Ta players are 9.88 and 9.278 respectively. In Lean body weight the mean value of Fencers and Thang Ta players are 50.77 and 48.72 respectively.

Table 1: Comparison of Means of Selected Body composition variables between fencers and Thang Ta players.

Variables	Group	Mean	SD	T
Percentage of body fat	Fencing	16.02	4.89	0.85
	Thang Ta	15.72	3.73	
Total body fat	Fencing	9.88	4.22	0.66
	Thang Ta	9.278	3.15	
Lean body weight	Fencing	50.77	8.12	0.41
	Thang Ta	48.72	5.14	

*significance at .05 level

There is no significant difference found between the means of selected body composition variables (Percentage of body fat, Total body fat, Lean body weight) of Fencing and Thang Ta

players as ‘t’ required to be significant at 2.021 and calculated value is less compare to tabulated value

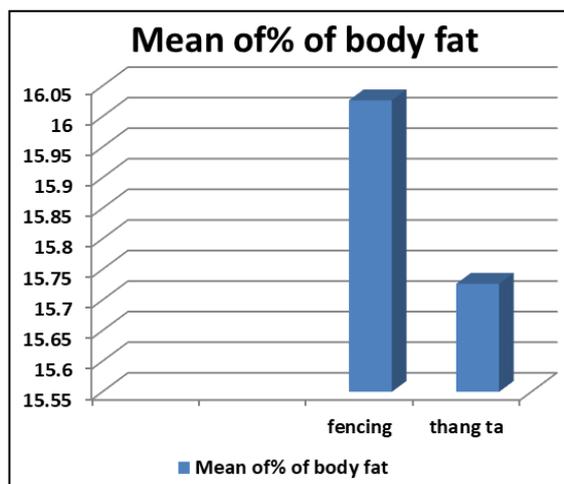


Fig 1: Comparison of Mean Difference in Percentage of Body Fat

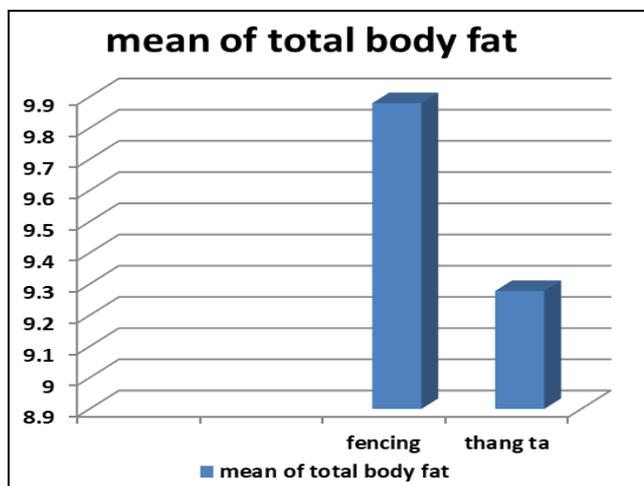


Fig 2: Comparison of Mean Difference of Total Body fat

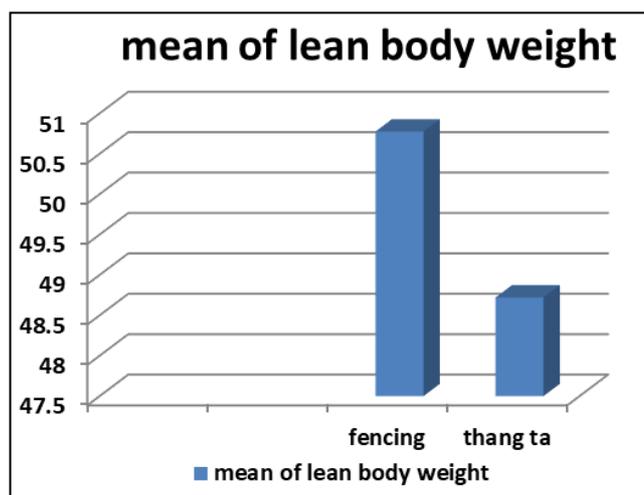


Fig 3: Comparison of Mean Difference of Lean Body Weight

4. Conclusion

Fencer and Thang Ta players who played at national level show no difference in their percentage of body fat, total body fat, lean body weight. Conclude that there is no significance difference was observed between Fencing and Thang Ta players in their body composition.

5. References

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