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Assessing the Changes between the Experimental and Control Group of Fencing Players' Depend on Their Lunge Performance

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Abstract – Fencing is a battle sport played with bladed weapons and was incorporated into Athens Olympics in 1896. The sport of fencing is isolated into three categories the foil, the saber and the epee. Fencing as a sport is popular in the two men and women. In spite of the fact that women and men play this sport independently, a few players have mastered a few distinct weapons, while others have practical experience in just a single. This sport needs qualities, for example, coordination, speed, nimbleness and confidence. As in this game fencer needs to examine the rival's game and as needs be create strategy to safeguard, subsequently, it is normally depicted as an enlivened game of chess. The aim of this paper is to analyze the Training on lunge performance of Fencing Players. The undertaking of this examination was to investigate the effects of Core Strengthening Training on Lunge Performance of Fencing Players. Twenty-Four, University level male Fencers of Amritsar between the age gatherings of 18-28 volunteered to participate in the investigation. The Standing Broad Jump Test was utilized to gauge the Explosive Horizontal Power. Statistical investigations were performed utilizing the Statistical Package for the Social Sciences for Windows rendition 16.0 programming. Data is communicated as the mean ± SD. Combined example t-test was used to analyze the methods for the Pre-Test and the Post-Test.

Keywords - Fencing, Players, Lunge, Performance, Training, Exercise, Game, Strength

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1. INTRODUCTION

Fencing is a multidimensional piece of our culture. In its utilitarian dimension it has been known since time immemorial. After some time, fencing duels offered approach to recreational, focused and arrange fencing. The development of sports requires the rationalization of training and increasingly effective preparation participants and in the circle of fencing, this worries all participants, be they male or female, foil, epee or saber fencers. The investigation territories secured by the present distribution are identified with fencing as well as outskirt on different sports. The accompanying articles are of theoretical, empirical and sociological nature. Engine propensities in fencing, incorporating footwork in a joint effort with activities of the sword arm, are of open character. The job of the fencing coach is to show fencers different fencing techniques and train them to alter these activities to the fast specialized and strategic changes in a fencing session. A similar specialized element in fencing may have a comparative or oppositely unique fleeting engine design structure, contingent upon the motivation behind a given fencing activity. Additionally, EMG parameters in fencers are dictated by the dimension of trouble and dominance of a given fencing procedure Their creators don't mean to debilitate every one of the issues identified with fencing, but instead stress issues of extraordinary worry to fencers, fencing coaches and all lovers of this world class battle sport. The present altered accumulation expects to move further development of fencing hypothesis and practice. The writers don't give direct answers for be implemented on the piste yet plan to urge the readers to think and experiment with a few thoughts from fencing and other battle sports.

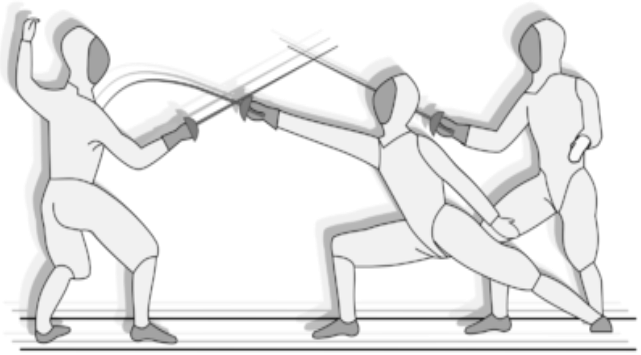

Figure 1 – Fencing Players Practice and Techniques

1.1 Lunge Performance

The fencing lunge is one of the fundamental offensive fencing activities. It commences by broadening the sword arm with a practically simultaneous extension of the rear leg in the knee. These movements are then pursued the fencer pushing his or her body ahead and expanding the front leg in the knee. It has been frequently seen that fencers amid battle, while foreseeing the adversary's defensive activities, will in general broaden the underlying phase of a lunge and postpone the movement of the arm. On account of unanticipated straightforward activities, both the fencing beat of the commencement and the finish of the lunge is quick joined by a generally low muscle electrical action. The reason for the present examination was to analyze the EMG flag, muscle electrical potential, enactment time of individual muscles and movement time of a female epee fencer performing three lunge types constituting three principle strategic examples in epee fencing. To begin with, the fencer performed pushes at the rival's head without anyone else activity. Second, she executed similar pushes on a rival's material stimulus, for example breaking the contact between the blades. Thirdly, she performed pushes with a disengagement on the adversary's break of blade contact and a concurrent parry.

1.2 Principles for Fencing Exercises

1.2.1 The Lunge

Fencing Specific Exercises help you create and enhance your strength by doing movements that are like a genuine fencing movement. For example, on the off chance that you need to take a shot at your lunge, the exercise will simulate the movement of a lunge while additionally expanding resistance or potentially trouble to enhance your strength, speed or balance.

Fencing Transferable Exercises help you create by and large strength by doing non-fencing movements, for example, those you may see your normal individual doing in a gym, with increased resistance or trouble; be that as it may, the strength picked up is transferrable to a movement that is important in fencing.

1.2.2 The Lateral Broad Jump

The explosive idea of a lunge begins in the curled intensity of a few basic muscles and ligaments in the back leg: the calf and Achilles, the gluteus maximus (your butt), the quadriceps and your adductors/crotch. When you push off your back leg, these muscles cooperate to quicken your body forward empowering you to achieve your rival and score the touch. The sidelong expansive jump is a fencing explicit exercise in which you play out a similar explosive movement that your back leg makes amid a lunge without the utilization of your front leg by any means.

1.2.3 The Standing Long Jump

A powerful lunge depends on the capacity to defeat the powers of gravity while pushing your body forward. The standing long jump is fencing transferable exercise which is a straightforward, however effective, for supporting unadulterated speeding up.

1.2.4 Speed Skaters

On the off chance that you have ever watched Apollo Ono move at blistering speeds over the ice, you will concur that speed skaters have inconceivable strength in their legs. Today, we take a page out their training book. The speed skater exercise is fencing transferable, benefiting the general strength of our legs, and along these lines enhancing our lunge.

1.2.5 Pulling Distance

Here is a situation that all fencers can identify with: your adversary starts the last stage of their attack, and you are endeavoring to pull the distance. There is a short, nerve racking moment when it's hazy whether you've quite recently figured out how to get away from their blade or whether you are ahem pierced. This game of feline and mouse depends intensely on the protector's capacity to control the general distance amid the rival's attack, particularly the absolute last retreating step.

1.2.6 The Vertical Jump

The vertical jump is a fencing transferable exercise which takes a shot at your general ability to spring off the ground. This explosive strength can support an extremely solid last step as, in that step, you frequently invest a short measure of energy airborne.

The goal of this exercise is basic. You need to put however much distance among you and floor as could reasonably be expected. The beginning position is with your feet somewhat more extensive than hip distance separated. Like the Standing Long Jump Exercise, twist your knees and, as you do as such, swing your arms from behind you in a forward pendulum movement to give you additional momentum as you jump as high as possible. The key is to attempt to make as much vertical

2. REVIEW OF LITERATURE

Trautmann and Rosenbaum (2008) - considered the sports-based damage designs in adult and elite fencers and conspicuous causative factors causing specific injuries. Trauma and over-burden injuries caused because of athletic exercises in non-elite and elite fencers may be caused because of different hazard factors. 180 subjects were directed surveys in rivalries and fencing clubs. Out of 180 examination participants, 73 were propelled fencers and 107 were elite fencers. It was uncovered that the 167 fencers

experienced agony and injuries which could be because of sports exercises of focused fencing.

Radzimirska-Graczyk and Chalcarz (2009) - directed an examination to look at the dietary patterns identified with suppers in young people and kids going to sports schools. The non-training and training days were surveyed independently. 141 teenagers and kids were approached to top off surveys dependent on the recurrence and number of eating dinners. These investigation participants went to sports classes and working on fencing in optional and elementary schools. The age and sexual orientation impact on the recurrence and number of eating dinners was surveyed by utilizing SPSS 12.0. The dietary patterns of the investigation participants were very troublesome, essentially in the females of auxiliary school which was because of low level of study participants eating ordinary dinners, especially lunch. Young ladies ate lesser than young men. Females from auxiliary schools ate not many quantities of dinners, which may display a danger of anorexia later on. Youths and youngsters who visit sports schools should be taught on the connection between nourishing status, sustenance propensities, and making progress and nourishment in general. The results of anorexia nervosa must be instructed to the optional school females taking an interest in sports.

Chalcarz et al (2010) - examined the nutritional propensities in adolescents and youngsters practicing fencing. This examination went for surveying the eating till the satiety feeling, longest interval among meals, and eating between meals in adolescents and kids going to the sports schools. This was a questionnaire-based examination, wherein 141 adolescents and kids who went to sports classes in optional and elementary schools and working on fencing were approached to fill the questionnaire. The days free of training and the days with training were surveyed independently. SPSS 12.0 PL was utilized for statistical analysis of the effect of age and sexual orientation on the longest hole between meals, eating in the middle of meals on training days, eating till the sentiment of satiety, and dietary pattern on non-training days. Age and sex had statistically significant effect on eating till the sentiment of satiety, longest hole among meals, and eating relieved meat, caffeinated beverages, vegetables, and desserts between meals. Pervasiveness of eating in the middle of principle meals was seen in the examination participants. It was uncovered that high level of young ladies ate vegetables and natural products in the middle of principle meals, though higher level of guys ate sandwiches, on both the days for example training days and non-training days.

Wojcik et al (2011) - This examination goes for finding weak connections concerning musculoskeletal framework amid Performance Matrix Tests in the fencers' body. The goals of this research was to see whether there is any association between fencers' age and weak connections, regardless of whether weak connections can be seen in fencers' gathering, whether weak connections are basic in all fencers of a gathering, and whether there is any correlation between training period length and weak connections. This research included 14 male and 14 female fencers chose from Fencing Section at the Warta Club. Average age of the participants of this examination was 13.81±2.84. The research instrument utilized was Performance Matrix Test, with the assistance of which weak connections of musculoskeletal framework was estimated. Following ends can be detailed from the outcomes got: In a fencers' gathering, weak connections in musculoskeletal framework are watched however it is questionable whether every one of the fencers have the equivalent weak connections. It was seen that there is no evidence of any correlation between number of weak connections and training period length. Examination of fencers did not affirm any correlation between number of weak connections and fencers' age. Twelve years of age fencers demonstrated maximum weak connections as indicated by the tests led. Performance Matrix Tests were observed to be cheap and simple device for weak connection appearance of musculoskeletal framework. Early determination of weak connections helps in the protection of fencer from musculoskeletal framework's damage. There is a dire requirement for worldwide and neighborhood adjustment of trunk and distal joints of fencers as there were parcel of weak connections found in this investigation.

Bottoms et. al (2013) - examined the kinematic determinants of weapon amid lunge in fencing. Lunge, being the most normally utilized attack in the game of fencing, is still least investigated as for its kinematics. There is absence of distributed research business related to the kinematics of lunge movement. Thusly, this examination was wanted to investigate the effect of epee fencing lunge on velocity of the sword upon contact and whether there is any select tactic of movement which can deliver maximum speed. Kinematic data of lower limit was recorded by selecting 14 right given epee fencing players by utilizing 3D movement framework amid their simulated lunges. Various direct relapse was done to analyze the data. The aftereffects of this examination uncovered that the pinnacle hip flexion, rear lower furthest point's scope of movement, and front lower limit's hip flexion were indicators of velocity of sword when in the sagital plane. It likewise demonstrated that rear furthest point's knee flexion is an important indicator which suggested that the fencing player sits little lower in their demonstration so as to deliver power while jumping. Additionally, sword velocity is demonstrated significantly by the magnitude of flexion of front limit's hip. This suggested the fore appendages are a basic piece of

lunge performance and ought to be thought about while playing fencing.

3. OBJECTIVE OF THE STUDY

1. To investigate the concept of Training on Lunge Performance of Fencing Players.
2. To define Principles for Fencing Exercises regarding the physical education students.
3. To describe the weekly training of the fencing players by defining their core strength
4. To find out the changes over the week training period in experimental and control group
5. To analyze the Mean & Standard Deviation for the Experimental (Pre-Test & Post-Test) and Mean & Standard Deviation Control (Pre-Test & Post-Test) groups scores of Lunge Performance.

4. RESEARCH METHODOLOGY

4.1 Sample Size

Twenty-Four, University level male Fencers of Amritsar between the age gathering of 18-28 years (Mean ± SD: age 22±2.963yrs, body tallness 168.391±5.790cm, weight 66.462±3.398kg) volunteered to participate in the investigation. The subjects were purposively isolated into three groups:

- Group-I: Control (N1=12);
- Group-II: Experimental (N2=12).

Distribution and demographics of subjects are brought forth in Table 1.

4.2 Variable of the study

Lunge Performance- the Standing Broad Jump Test was used to measure the Explosive Horizontal Power

Table 1 Six Week Training of Core Strengthening

Week 1	1. Traansversusabdominus (10 repetitions with 15 seconds hold). Abdominal bracing. Bracing with heel slides Bracing with leg lifts Bracing with bridging Bracing in standing row Bracing with walking Bracing with quadruped position
Week 2	1. Parspinals/ multifidi (10 repetitions with 15 seconds hold). Quadruped arm lifts with bracing. Quadruped leg lifts with bracing. Quadruped alternate arms and leg lifts with bracing. Central plank (8 repetitions with 30 seconds hold). Abdominal bridging (10 repetitions with 15 seconds hold).
Week 3	1. Quadratuslumborum and obliques (6 repetitions with 30 seconds hold). Side plank with knees flexed. Side plank with knees extended. Planks with variation of arm and leg (6 repetitions, 3-3 on each side with 30 seconds hold) Plank with 1 arm raise. Plank with 1 leg raise. Trunk Curl (2 sets, 30 repetitions). Abdominal bridging with leg raise (10 repetitions with 15 seconds hold).
Week 4	Central planks with variations (6 repetitions with 30 seconds hold) Sit-ups (2 sets of 30 repetitions). Cross crunches (2 sets of 30 repetitions). Leg raises (2 sets of 15 repetitions by descending the legs slowly).
Week 5	Central planks with variations (8 repetitions with 30 seconds hold). Scissors (2 sets of 30 repetitions). Cycling crunches (2 sets of 30 repetitions). Flutter kicks (2 sets of 30 repetitions).
Week 6	Leg circles (30 repetitions). Reverse crunches (2 sets of 30 repetitions). Sitting twist (2 sets of 30 repetitions). V-sit (10 repetitions with 10 seconds hold) (Akuthota, V., et a., 2008)

4.3 Statistical Technique

Statistical investigations were performed utilizing the Statistical Package for the Social Sciences for Windows adaptation 16.0 programming (SPSS Inc., Chicago, IL). Data is communicated as the mean ± SD. Matched example t-test was used to analyze the methods for the Pre-Test and the Post-Test. The dimension of noteworthiness was set at 0.05.

5. DATA ANALYSIS AND INTERPRETATION

Table 2 Demographics Profile

Variables	Total (N=24)	Control Group (N_1=12)	Experimental Group (N_2=12)
Age (yrs)	22±2.963	22.25±3.278	21.75±2.734
Body Weight (kgs)	66.462±3.398	65.725±3.764	67.2±2.964
Height (cm)	168.391±5.790	169.166±7.371	167.616±3.804

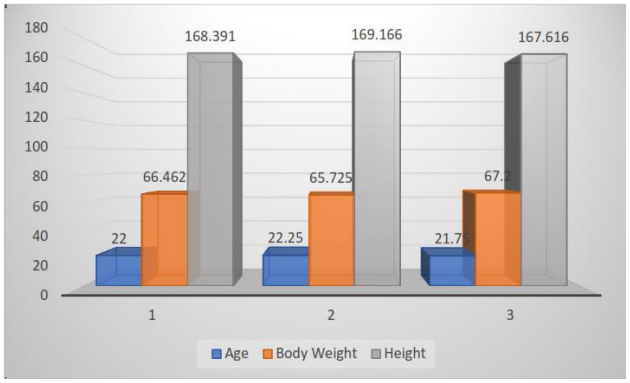

Figure 1 Demographics Profile

Table 3 Descriptive statistics (Mean & Standard Deviation)

Group	Number	Mean	Standard Deviation	Variance	t-value
Experimental (Pre-Test)	12	85.916	9.83	96.628	5.976
Experimental (Post-Test)	12	91.583	10.655	113.537	
Control (Pre-Test)	12	95.808	8.113	65.831	1.663
Control (Post-Test)	12	96.816	8.884	78.928	

Lunge Performance

A. Experimental Group

- The means of Group 1 and Group 2 are significantly different at $p < 0.05$.
- The total value of the calculated t exceeds the critical value (5.9765>2.201), so the methods are significantly unique.

B. Control Group

- The means of Group 1 and Group 2 are not significantly different at $p < 0.05$.
- The total value of the calculated t is smaller than critical value (1.6633<2.201), so the means are not significantly different.

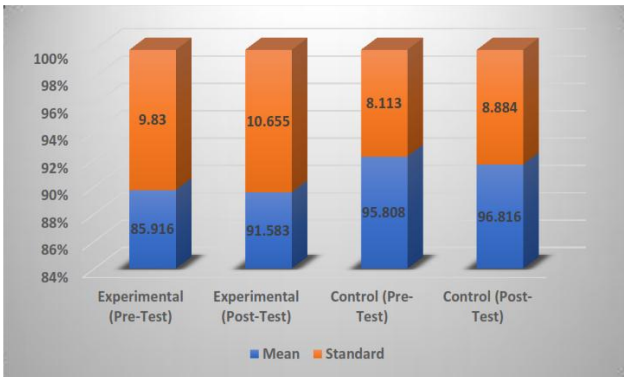

Figure 2 Mean & Standard Deviation

6. CONCLUSION

Fencing has a long convention so far as human age is concerned. It is played with bladed weapons and was incorporated into Athens Olympics in 1896. Focused fencing is separated into three categories viz., the foil, the saber and the epee. Fencing is popular sport for the two men and women. Although women and men play this sport independently, a few players have mastered with a few distinct weapons, while others are specialized in just a single. This sport needs qualities, for example, coordination, strength, speed, agility, flexibility, continuance, stamina and confidence. As in this game, a fencer needs to analyze the rival's game-tactics and in like manner create strategy to safeguard; thusly, it is normally depicted as a vivified game of chess. The psycho-physiological and wellness demands for focused fencing require high-impact just as anaerobic wellness. Further, for the achievement in this sport players need to create agility, power, flexibility and strong strength. The performance in this game isn't just subject to physical capacities yet additionally on physiological and mental parameters is of prime importance. Significant contrasts were found in Lunge Performance in the experimental gathering exposed to 6-week training. Nonetheless, no significant changes over that 6-week period were noted in the control gathering.

RECOMMENDATIONS

- ► Yoga exercise plan as suggested in this investigation can be incorporated as a component of training program for elite fencing players.
- ► Implementation of yoga for 30 minutes day by day is **appropriate** for the fencing players to enhance the contributory psycho-physiological and performance-related wellness variables just as fencing abilities.
- ► Alongside elite fencers, the outcomes are of immense importance for the fencers of various categories.

► Further research in the comparative direction be led for the diverse players of other sport occasions.

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