



Effect Of Mat Pilates Training On Kinanthropometric Variables Of School Level Male Handball Players

E.Balaji

Director of Physical Education, CBM College, Coimbatore, India

Abstract:

The study was designed to investigate the “Effect of mat pilates training on kinanthropometric variables of school level male handball players”. To achieve this purpose 30 school level male handball players were randomly selected from Coimbatore district as subjects. They were divided into two groups. The group I was considered as control group and group II was considered as experimental group. The investigator did not made any attempt to equate the group. The control group was not given any exercise and the experimental group was given mat pilates training for five days per week. The experimental group was given training for the period of 8 weeks of matpilates training. The following criterion variables were chosen namely lateral trunk flexion, thoracolumbar spine flexion and thoracolumbar spine extension. All the dependent variables were assessed before and after the training period of 8 weeks. The collected data on kinanthropometric variables due to effect of mat pilates training was analyzed by computing mean and standard deviation. In order to find out the significant improvement if any, ‘t’ test was applied. 0.05 level of confidence was fixed to test the level of significance. The study revealed that the kinanthropometric variables were significantly improved due to the influence of mat pilates training.

Keywords: 1. Mat Pilates training 2. Kinanthropometry 3. Lateral trunk flexion 4. Thoracolumbar spine flexion 5. Thoracolumbar spine extension.

1.Introduction

People get involved in exercise to improve their health and physical condition, to achieve a sporting ambition, to relieve the tension and stress of daily life, to lose weight, it makes them feel good. According to Matwejew (1981) Sports training to be a basic form of preparation of sportsmen for better performance through physical exercises. The pilates method, developed by the legendary physical trainer Joseph Pilates, is a full body exercise system. Emphasizing body alignment and correct breathing, pilates uses the abdomen, lower back, and buttocks as a power center, enabling the rest of the body to move freely. A series of controlled exercises and specialized equipment create variable resistance for muscular exertion. The primary mechanism used in pilates is the universal reformer, a bed-like platform with a carriage that slides along tracks. Pilates mat work is a series of exercises that are done on the floor without Pilates machines. The attention to the flow of movement and to the core muscles is the same as when you do Pilates on the machines, and mat work is a challenging workout in its own right.

The game handball requires significant aerobic, anaerobic fitness, lateral quickness, core strength are the ability to move explosively within in a small space, while maintaining our balance and coordination on the next shot are the components of handball success. So the handball players must possess significant aerobic fitness, excellent balance and particularly lateral quickness. For lateral quickness, trunk lateral flexion is very important. If a player increased his lateral trunk flexion automatically his lateral quickness will be improved. For perfect dive shot in handball the thoracolumbar spine flexion is very important. And to execute the jump shot, thoracolumbar spine extension plays a vital role, without arching back the shot will not be success.

2.Related Literature

Gibson et al.(2009) investigated the eight-week traditional mat Pilates training-program effects on adult fitness characteristics. They investigated responses of adult, novice practitioners (n = 9) to an 8-week traditional mat Pilates program (P) that met 1 hr/day three times/week. Classes consisted primarily of beginner and intermediate level exercises. Compared to an active control group (C; n = 13) that showed no improvements, those in P significantly ($p < .05$) improved relative body fat (-1.2% BF), sit-and-reach (+7.5 cm), shoulder reach (+6.9 cm), curl-up (+14 reps), and low back extension (+7 reps) scores, as well as circumferences at the waist (-2.7 cm), chest (-1.7 cm), and arm (-0.5 cm). Baseline differences were noted only for curl-ups and low back

extensions, with P being lower than C Body composition, muscular endurance, and flexibility significantly improved after 8 weeks of traditional mat Pilates.

3.Methodology

To achieve this purpose 30 school level male handball players were randomly selected from Coimbatore district as subjects. They were divided into two groups. The group I was considered as control group and group II was considered as experimental group. The investigator did not made any attempt to equate the group. The control group was not given any exercise and the experimental group was given matpilates training for five days per week. The experimental group was given training for the period of 8 weeks of mat pilates training. The following criterion variables were chosen namely lateral trunk flexion, throcolumnar spine flexion and thorocolumbar spine extension. All the dependent variables were assessed before and after the training period of 8 weeks. The collected data on kinanthropometric variables due to effect of pilates training was analyzed by computing mean and standard deviation. In order to find out the significant improvement if any, 't' test was applied. 0.05 level of confidence was fixed to test the level of significance.

4.Results And Discussions

VARIABLES	GROUP	TEST	MEAN	STANDARD DEVIATION	MEAN DIFFERENCE	't' RATIO
LTF	CON	Pre	49.8	3.46	0.13	0.15
		Post	49.93	3.75		
	EXP	Pre	51.06	3.61	0.80	4.58*
		Post	51.86	3.54		
TSF	CON	Pre	7.07	1.03	0.07	0.44
		Post	7.00	1.07		
	EXP	Pre	9.00	2.10	0.87	6.5*
		Post	9.87	1.99		
TSE	CON	Pre	4.60	1.40	0.07	0.32
		Post	4.53	1.24		
	EXP	Pre	5.07	1.38	0.53	3.22*
		Post	5.60	1.40		

Table 1: Summary Of Mean And 'T' Test For The Pre And Post Tests On Ltf, Tsf And Tse Of Control Andexperimental Groups

**Significant at 0.05 level of confidence (2.145)*

Table reveals the computation of 't' ratio between mean of pretest and posttest of control and experimental groups on lateral trunk flexion, thoracolumbar spine flexion and thoracolumbar spine extension of school level male handball players. The mean values of pre and posttest on control group were 49.8 and 49.93, 7.07 and 7.00 and 4.60 and 4.53 respectively. Since the obtained 't' ratio 0.15, 0.44 and 0.32 were lesser than the required table value 2.145, it was found statistically not significant for the degree of freedom 1, and 14 at 0.05 level of confidence.

The mean values of pre and posttest of experimental group were 51.06 and 51.86, 9.00 and 9.87 and 5.07 and 5.60 respectively. Since the obtained 't' ratio 4.58, 6.5 and 3.22 were greater than the required table value 2.145, it was found statistically significant for the degree of freedom 1, and 14 at 0.05 level of confidence.

The results clearly indicated the lateral trunk flexion, thoracolumbar spine flexion and thoracolumbar spine extension of experimental group improved due to the influence of matpilates training programme.

5. Conclusion

Based on the result, the following conclusions have been arrived:

- There was significant improvement in lateral trunk flexion due to the influence of Pilates training on school level male handball players.
- There was significant improvement in thoracolumbar spine flexion due to the influence of Pilates training on school level male handball players.
- Eight weeks of pilates training significantly improved the thoracolumbar spine extension of school level male handball players.

6.Reference

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