International Journal of Physical Education, Sports and Health 2022; 9(2): 271-273

P-ISSN: 2394-1685
E-ISSN: 2394-1693
Impact Factor (ISRA): 5.38
IJPESH 2022; 9(2): 271-273

www.kheljournal.com
Received: 19-01-2022
Accepted: 26-02-2022

Dr. Ameer Ali PA
Assistant Professor,
Dept. of Physical Education,
Amal College of Advanced Studie, Kerala, India

Dr. AM Antony
(Research Guide), Principal,
Peevees Model School, Kerala, India

Corresponding Author:
Dr. Ameer Ali PA
Assistant Professor,
Dept. of Physical Education,
Amal College of Advanced Studie, Kerala, India

Effect of Pilates Training and Medicine ball Exercise on Diastolic Blood Pressure Variable among Men Inter Collegiate Football Players

Dr. Ameer Ali PA and Dr. AM Antony

Abstract
The purpose of the study is to investigate the relative effect of Effect of Pilates Training and Medicine ball Exercise on Diastolic Blood Pressure Variable Among Men Inter Collegiate Football Players To achieve the purpose of the study, 90 male football players from Ideal Arts and Science College Cherpulassery, Kerala, were selected as subjects. Their age ranged from 18 years to 23 years. The selected subjects were randomly assigned into three equal groups of 30 subjects each. Group-I underwent Pilates training, Group-II underwent medicine ball training and group-III acted as control. The selected dependent variable Diastolic Blood Pressure was assessed by Sphygmomanometer test before as well as after training. The assessed data of the three group's was analyzed through paired 't' test. Additionally, magnitude (%) of changes was also calculated. To abolish the early mean disparity, the three group's data (pre & post) were calculated through ANCOVA statistics. When the 'F' (adjusted) score in ANCOVA was high, the post hoc (Scheffe's) test was followed. The confidence level 0.05 was set. Due to the effect of Pilates Training and Medicine ball Exercise on Systolic Blood Pressure Variable Among Men Inter Collegiate Football Players were notably progressed however, Pilates training was much superior to Medicine Ball training in developing Diastolic Blood Pressure performance of men inter collegiate football players.

Keywords: Pilates training, Medicine Ball training, Diastolic Blood Pressure.

Introduction
History enlightens us It enables us to understand how contemporary physical education, exercise science and sports has been shaped by leaders and events of the past. History guide us. It suggest future possibilities and courses of action that might be most effective in the year to come. Physical education, exercise science and sports are scholarly field of study,

Pilates offers a gentle but powerful approach to achieving natural potential for optimal strength, flexibility, and stamina. It could be said that pilates is unique in its delivery as it can be personalized for specific medical conditions and posture types. The pilates method is a body conditioning exercise therapy, targeting the deep postural muscles to achieve core stability and strength with improved muscle balance. It involves the re-alignment of the spine to its optimum position with gentle stretching and strengthening movements. Pilates exercises are particularly recommended for those who suffer from chronic neck or back pain, postural problems, sports injuries, osteoporosis, arthritis, stress-related illnesses and many other conditions. It is a safe, effective way of exercising, as you are encouraged to execute the moves slowly and within own range of movement, so it falls within every ones capabilities from the top athlete looking to enhance their performance and avoid the risk of injury, to clients who have never exercised much before. Medicine ball training can be effective in improving muscular strength, and movement velocity is a critical factor in power development. Plyometrics increase the power of the movement by harnessing the natural elastic components of the muscles and tendons as well as the stretch reflex. These quick movements develop explosive power through muscular actions. Medicine ball training is one of the many components in an individual's routine. Medicine ball exercises promote variety by introducing a novel stimulus for physiological adaptation. Training with a medicine ball helps to develop total body power, muscular endurance and flexibility.

Among sport conditioning coaches, there is considerable discussion regarding the efficiency of training methods that improve endurance and flexibility performance. But the best method for achieving improvement in endurance and flexibility performance is disputed. Pilates training and medicine ball training are well-established training method and vital necessary for football players; however, there is a lack of information regarding pilates training and medicine ball training impact on endurance and flexibility performance of football players.

Methodology

To achieve the purpose of the study, 90 male football players from Ideal Arts and Science College Cherpulassery, Kerala, India were selected as subjects. Their age ranged from 18 years to 23 years. The selected subjects were randomly assigned into three equal groups of 30 subjects each. Group-I underwent Pilates training, Group-II underwent medicine ball training and group-III acted as control. All the subjects selected for this study were subjected to medical evaluation and certification from a doctor ensuring their health capacities to undergo the training programme. The requirement of the project was explained to all the subjects and all of them agreed voluntarily to undergo the testing and training Programme. The selected dependent variable Systolic Blood Pressure was assessed by Sphygmomanometer test before as well as after training.

Table 1: Training Programme

S. NO.	Name of Practice	Experimental Group I	Experimental Group II	Duration			
				1 to 3 Week	3 to 6 Week	6 to 9 Week	9 to 12 Week
1	Monday	Pilates Exercise	Medicine ball Exercise	30 minutes	40 minutes	50 minutes	60 minutes
2	Wednesday	Pilates Exercise	Medicine ball Exercise	30 minutes	40 minutes	50 minutes	60 minutes
3	Thursday	Pilates Exercise	Medicine ball Exercise	30 minutes	40 minutes	50 minutes	60 minutes
4	Saturday	Pilates Exercise	Medicine ball Exercise	30 minutes	40 minutes	50 minutes	60 minutes

During the instruction period, the experimental groups underwent their respective instruction programme. Experimental group namely Pilates training and medicine ball training underwent their respective training for 4 days per week for 12 weeks.

The duration of training session was 90 minutes. All the subjects involved in this study were carefully monitored through out the instruction programme to be away from fear. They were questioned about their mental status through out the instruction programme. None of them reported with any fear.

Training Plan for Experimental Group I Experimental Group II

Statistical Technique

The data collected from the experimental and control groups on agility was statistically analyzed by paired 't' test to find out the significant differences if any between the pre and post test. Further, percentage of changes was calculated to find out the changes in selected dependent variables due to the impact of experimental treatment.

The data collected from the three groups prior to and post experimentation were statistically analyzed by Analysis of Covariance (ANCOVA). Since three groups were involved, whenever the obtained 'F' ratio value was found to be significant for adjusted post test means, the Scheffe's test was applied as post hoc test. In all the cases the level of confidence was fixed at 0.05 level for significance.

Table 2: Significance of Mean Gains /Losses Between Pre And Post Test Of Pilates Training on Diastolic Blood Pressure Inter Collegiate Level Football Players

Variables	Pre-test mean ±SD	Post-test mean ± SD	M.D	SEM	't'-ratio
Diastolic Blood Pressure (in mm of Hg)	76.26 ± 4.28	70.60 ± 4.70	5.66	0.28	19.60*

*Significant at 0.05 level

From the table observed that the t-ratios for the physiological variable 19.60 (Diastolic Blood Pressure), The observed t-ratios for the physical fitness. where greater than the table value 2.05 for degrees of freedom 1, 29. It was observed that the mean gains and losses made from pre-test and post-test were statistically significant resulting that sixteen weeks practice of Pilates training produced significant improvement in Diastolic Blood Pressure (1.58, $p < 0.05$) from the performance of baseline.

Table 3: Significance of Mean Gains /Losses Between Pre And Post Test Of Medicine Ball Training on Diastolic Blood Pressure Inter Collegiate Level Football Players

Variables	Pre-test mean ±SD	Post-test mean ± SD	M.D	SEM	't'-ratio
Diastolic Blood Pressure (in mm of Hg)	75.63 ± 3.98	72.86 ± 3.61	2.76	0.022	12.11*

*Significant at 0.05 level

From the table observed that the t-ratios for the physiological variable 12.11 (Diastolic Blood Pressure), The observed t-ratios for the physical fitness. where greater than the table value 2.05 for degrees of freedom 1, 29. It was observed that the mean gains and losses made from pre-test and post-test were statistically significant resulting that sixteen weeks practice of Medicine Ball training produced significant improvement in Diastolic Blood Pressure (1.25, $p < 0.05$) from the performance of baseline

Table 4: Significance of Mean Gains /Losses Between Pre And Post Test Of Control Group on Diastolic Blood Pressure Inter Collegiate Level Football Players

Variables	Pre-test mean ±SD	Post-test mean ± SD	M.D	SEM	't'-ratio
Diastolic Blood Pressure (in mm of Hg)	76.10 ± 3.97	76.36 ± 3.93	0.26	0.73	1.97

*Significant at 0.05 level

From the table observed that the t-ratios for the physiological variable 1.97 (Diastolic Blood Pressure), The observed t-ratios for the physical fitness. where greater than the table value 2.05 for degrees of freedom 1, 29. It was observed that the mean gains and losses made from pre-test and post-test were statistically significant resulting that sixteen weeks practice Though the control group shows a statistical significant results from the below charts it is observed that the control group performances shows an opposite performance results in Diastolic Blood Pressure (0.74, $p < 0.05$) from the performance of baseline

Table 4: Analysis of covariance of pilates training, medicine ball training, control group on diastolic blood pressure

	Source of variance	Sum of squares	df	Mean square	F-value
Pre-test	BG	6.46	2	3.23	0.19
	WG	1451.5	87	16.68	
Post-test	BG	506.42	2	253.21	14.96
	WG	1471.63	87	16.91	
Adjusted Mean	BG	526.92	2	263.46	72.08
	WG	131.67	86	1.53	

*significant level 0.05 level (3.101, 3.102)

The obtained 'F' ratio for the pre test mean of Pilates training, medicine ball training and control group on diastolic blood pressure was 0.19, since F - value was less than the required table value of 3.101 for the degree of freedom 2 and 87, it was significant at 0.05 level of confidence.

The obtained 'F' ratio for the post test mean of Pilates training, medicine ball training and control group on diastolic blood pressure was 14.96, since F - value was higher than the required table value of 3.101 for the degree of freedom 2 and 87, it was significant at 0.05 level of confidence.

The obtained 'F' ratio for the adjusted post test mean of Pilates training, medicine ball training and control group on diastolic blood pressure was 72.08, since F - value was higher than the required table value of 3.102 for the degree of freedom 2 and 86, it was significant at 0.05 level of confidence.

Table 4: Scheffe's test for the difference between the adjusted post test means on diastolic blood pressure

PT	MBT	CG	M.D	C.I
70.34	73.21	-	2.87	3.03
70.34	-	76.27	5.93*	3.03
-	73.21	76.27	3.06	3.03

* Significant at 0.05 level (CI) Value: 3.03

The mean difference between Pilates training (PT), medicine ball training (MBT) and control group (CG) were 2.87, 5.93, 3.06 respectively. The values of mean difference of adjusted post test mean higher than that of the required confidence interval value of 3.03, and it significant. Since, the mean difference of adjusted post test mean between PT and CT (5.93), MBT and CT (3.06) was higher than the required confidence interval value, it was found to be significant at 0.05 level of confidence.

From the result it was inferred that the twelve weeks of Pilates training (PT) group had improved on diastolic blood pressure significantly than the other training group of MBT, CG. Further, twelve weeks of Pilates training (PT) group had higher improvement in diastolic blood pressure when compared with control group (CG).

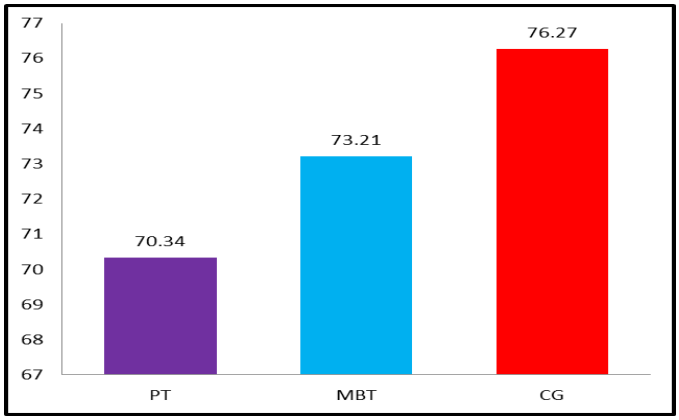

Fig 1: Adjusted mean values on Diastolic Blood Pressure of PT, MBT and CG

Discussion

After collection of data, appropriate statistical analysis has been done. Now the scholar has made an attempt to present the discussion of findings. The result of study support the use twelve weeks of Pilates training (PT) group had improved on Diastolic Blood Pressure significantly than the other training group of MBT, CG. Further, twelve weeks of Pilates training (PT) group had higher improvement in Diastolic Blood Pressure when compared with control group (CG). Mayhew JL, *et al*., (2005) this study was to determine the relationship of the medicine ball throw to power production in college football player

Conclusion

It was further concluded that Pilates training group (PT) showed greater improvements on physiological variables on Diastolic Blood Pressure

References

1. Frankie Puglisi. Level one Pilates Mat Foundations. West Palm Beach, 2008.
2. Harthayal Singh. Science of Sports Training. New Delhi Publication, 1991.
3. A.K. Uppal. Science of Sports Training. New Delhi: Friends Publication, 2009.
4. Deborah A. Wuest and Charles A. Bucher. Foudations of Physical Eucation, Exercise Science, and Sports. New Delhi: Tata McGraw- Hill, 2010.
5. Robert. S. Weinberg and Daniel Gould. Foudations of Sport and Exercise Psychology. Champaign, Illinois: Human Kinetic Publishers, INC, 2007, p.1.
6. Geremia JM, *et.al*. Effect of a physical training program using the Pilates method on flexibility in elderly subjects. Age (Dordr), 2015.
7. Hasanpour-Dehkordi A Dehghani A, Solati K. A Comparison of the Effects of Pilates and McKenzie Training on Pain and General Health in Men with Chronic Low Back Pain: A Randomized Trial. Indian Journal of Palliat Care, 2017.
8. Oliveira LC, *et al*. Pilates increases isokinetic muscular strength of the elbow flexor and extensor muscles of older women: A randomized controlled clinical trial. Journal of Bodywork and Movement Therapies, 2017.