

A STUDY ON THE IMPACT OF MOTOR PHYSICAL FITNESS EXERCISES FOR DEVELOPMENT OF SHOULDER STRENGTH AND SPEED AMONG UNIVERSITY VOLLEYBALL SKILL PERFORMANCES

Geddayi Sarika

*Assistant Professor (P.D), S.R.K.R Engineering College (Autonomous),
Bhimavaram, Andhra Pradesh, India*

Dilipkumar Dibba*

*Department of Physical Education and Sports Sciences, Andhra University,
Visakhapatnam, India*

L. Praveen Kumar

*Department of Physical Education, ST. Joseph's College for Women(A),
Visakhapatnam, A.P, India.*

Received 16 May 2024; Revised 24 May 2024; Accepted 15 June 2024

ABSTRACT

Motor Physical Fitness Exercises are a vital component for Volleyball Players for obtaining the maximal strength, speed and force during the athletics event and should be included in any conditioning program of Volleyball Players. The purpose of the present study to find out the effect of Motor Physical Fitness Exercises for the development of Shoulder strength speed among Volleyball Players. The sample for the present study consists of 50 Male Volleyball Players Affiliated Colleges of Andhra University out of which 25 are experimental group and 25 are controlled group. Motor Physical Fitness Exercises such as hopping, bounding, depth jumps, tuck jumps, Push-ups etc. were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training for six weeks. Pre-Test and Post Test were conducted in Pull ups to measure the shoulder strength and 30 M Run to measure the speed among experimental group and controlled group. This study shows that due to the Motor Physical Fitness Exercises training there is an improvement of experimental group in the Shoulder strength and Speed and controlled group is decreased in performance of shoulder strength and speed. Volleyball Players is all about explosive power. Explosive power is a combination of speed, muscular endurance and muscular strength, all of which can be developed through Motor Physical Fitness Exercises. It is concluded that due to Motor

***Correspondence to:** Dilipkumar Dibba, Department of Physical Education and Sports Sciences, Andhra University, Visakhapatnam, India, Tel: 7989812773; E-mail: dilipkumarphd24@gmail.com

Physical Fitness Exercises there will be improvement in shoulder strength and speed among Volleyball Players.

Keywords: Motor physical fitness exercises exercise, Maximal strength, Speed, Volleyball players in Andhra University.

INTRODUCTION

Sports are most often played just for fun or for the simple fact that people need exercise to stay in good physical condition. Although they do not always succeed, sports participants are expected to display good sportsmanship, standards of conduct such as being respectful of opponents and officials, and congratulating the winner when losing.

All motor components contribute directly and indirectly for better performance. General Motor Fitness Test is prepared after analyzing twenty-eight components. The main components among them are strength, velocity and muscular co-ordination. The other components like shape, height and weight of body, force, endurance, balance and ability are also important. According to victor, motor fitness is a constant going on process. Motor fitness depends on physical organs and skills of the person. Each person needs certain minimum degree of motor fitness. Maximum motor fitness depends on how the individual works. Physically healthy person can remain active for a long time without feeling tiredness. Motor fitness is very important in viewpoint of sports. Motor fitness is taken into consideration while selecting players of any sport, so that higher results can be attained.

One of the important aims of every sports programme should be to develop physical fitness of the participants. In the narrow understanding, Games and Sports is a competitive activity. In other words, the activity which has been historically formed in the sphere of physical culture as competitions which aim to identify, compare and develop certain human abilities. Self-understanding is a basic to an integrated personality, sports gives a clear estimate of more than one dimension of the individual. Attitude of students is an important area for research. It is an important segment of an individual's readiness. Status has an effect on the individual's reaction to a situation may be further stated that attitudes are learned or acquired they may be influenced by teaching. Attitude has environmental effects also. Individual's attitude is guided and guarded by his parents' views, well-wishers views and by some social factors (Chetna Chaudhary, Birendra Jhaharia, 2010). Home and School are two unique institutions to form right attitude towards and object. Games and Sports contribute towards social, mental, emotional and intellectual development. Vigorous activity is basically meant for increasing the efficiency of the body and human being need to be fit efficiently throughout their lives. To take part in games and sports activities one can develop his health definitely. A healthy society needs the healthy individual (Adams, Shea, O'Shea, & Climstein).

To form the structure of the circuit training, the coach measures characteristics of physical fitness of layers by giving a physical fitness test

and decides which competencies they lack. Then, the coach constructs the training programme for development of lacking competencies (Christophe, Michal Lehnert, Ivona Lamrova, Milan Elfmark, 2009). For example, if the coach sees less strength of shoulder muscles, he will include the exercise helpful to increase the strength of shoulder muscles in the circuit training. If the coach finds less speed, one or two exercises for increasing speed will be selected. In the same way, if developing the muscles of thigh or abdomen, some exercises for development of muscles of thigh or abdomen can be selected. Thus, one or two exercises for muscular power, flexibility, endurance etc. are to be included in the circuit training and the structure of the training programme is prepared. Selections of exercises, exercise cycles, duration of training, density of exercise etc. are to be determined while preparing structure for the circuit training (Campo, Vaeyens, Philippaerts, Redondo, de Benito, 2009).

Motor Physical Fitness Exercises exercises are a vital component for Volleyball Players for obtaining the maximal strength, speed and force during the throwing event and should be included in any conditioning program of Volleyball Players. Successful Volleyball Players are athletic, technically sound and tactical savvy in the ring. Spending long hours in the gym makes you more technical and tactical. With an effective workout routing and the right training, your coordination, quickness and explosiveness should improve through Motor Physical Fitness Exercises Training Motor Physical Fitness Exercises train your nervous system to trigger quick, Powerful muscle contractions, (Vishnu Raj,2017). workouts include high intensity exercises that emphasize short bursts of energy. Volleyball Players a sport that requires explosive and powerful movements for an athlete to succeed. Motor Physical Fitness Exercises mimics the physical demands of a fight and will train your body to move more quickly and explosively. When completing Motor Physical Fitness Exercises exercises, they must be done in short bursts at the highest intensity possible (Young, James, Montgomery, 2002).

Fitness is a very important in the success of a Volleyball Players (Sinku, 2012). Volleyball Players need excellent levels stamina, speed, agility and power. In order to improve as a judo player, you should be testing and monitoring your fitness levels and adjusting your training so you can fully reach your potential.

STATEMENT OF THE PROBLEM

The purpose of the study “A Study on the Effect of Motor Physical Fitness Exercises Exercises for development of Shoulder Strength and Speed among University Volleyball Players.”

METHODOLOGY

The purpose of the present study to find out the effect of Motor Physical Fitness Exercises exercises for the development of Shoulder strength and speed among Volleyball Players. The sample for the present

study consists of 50 Male Volleyball Players in Affiliated Colleges of Andhra University out of which 25 are experimental group and 25 are controlled group. Motor Physical Fitness Exercises exercises such as Pushups, Medicine Ball Throws, Hopping, Bounding, Tuck Jumps, Box Jumps, dumbbell throws etc. were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training for six weeks. Pre-Test and Post Test were conducted in Pull ups to measure the shoulder strength and 30 M Run to measure the speed among experimental group and controlled group.

RESULTS

This result of the study shows that due to the Motor Physical Fitness Exercises training there is an improvement of experimental group in the Shoulder strength and Speed and controlled group is decreased in performance of shoulder strength and speed due to the general training.

Table 1 shows the Experimental Group of 30 M Run Men is 7.42 in Pre-Test and Controlled Group mean is 7.43 in Pre-Test there is a difference of 0.01 in Pre-Test. The Experimental Group Mean is 6.45 in Post Test and Controlled Group mean is 7.13, the Experimental Group mean in Post Test in 30 M Run is decreased from 7.42 to 6.45 there is an improvement of 0.97 from Pre-Test to Post and Control Group Mean is posttest is 7.43 there is a increase of 7.43 to 7.13 from Pre Test to Post, the performance is come down to 0.30 in the controlled group. Due to the Motor Physical Fitness Exercises Training the Experimental group has improved a lot.

Table 1. Mean values of 30 M run test between experimental and control groups of Volleyball Players.

Variable	Group	Pre-Test M	Post Test M	t' value	P' Value
30 M Run	Experimental	7.42	6.45	3.56	0.00
	Control	7.43	7.13		

Table 2 show the Experimental Group of Pull ups in Pre-Test is 15.00 and Controlled Group mean is 15.10 in Pre-Test there is a difference of 0.00 in Pre-Test. The Experimental Group Mean in Pull Ups Test is 20.00 in Post Test and Controlled Group mean is 17.50, the Experimental Group mean in Post Test in Pull ups Test is improved from Pre-Test 13.00 to Post Test 18.00 and Control Group Mean is posttest is 13.00 there is a decrease in the performance from 13.00 to 15.50. The Experimental Group has improved due to Motor Physical Fitness Exercises exercises in Pull ups Test and Controlled Group is decreased due to general training (**Figure 1 & 2**).

Table 2. Mean values of Pull Ups test between experimental and control groups of Volleyball Players in athletics.

Variable	Group	Pre-Test	Post Test	t' value	P' Value
Pull ups	Experimental	15.00	20.00	8.01	0.00
	Control	15.00	17.50		

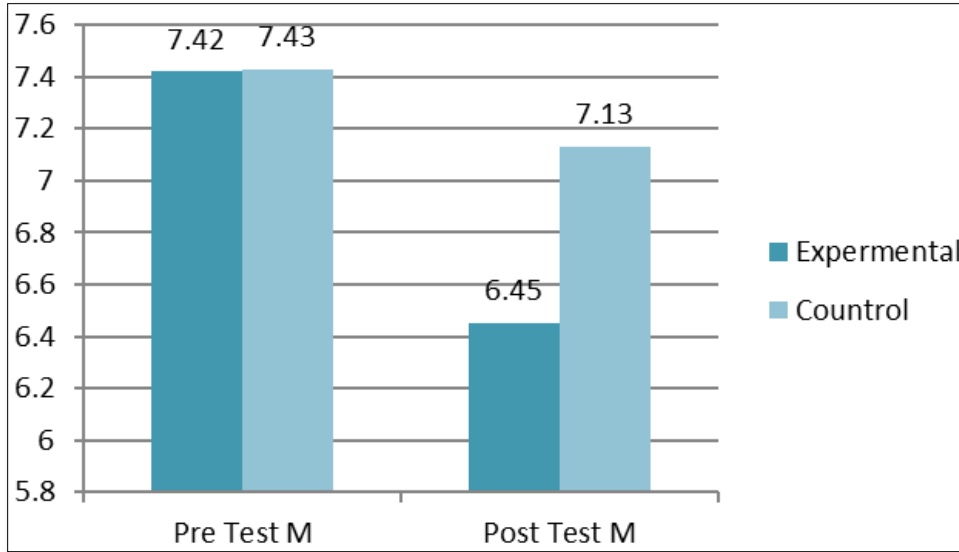


Figure 1. Mean values of 30 M run test between test between experimental and control groups of Volleyball Players.

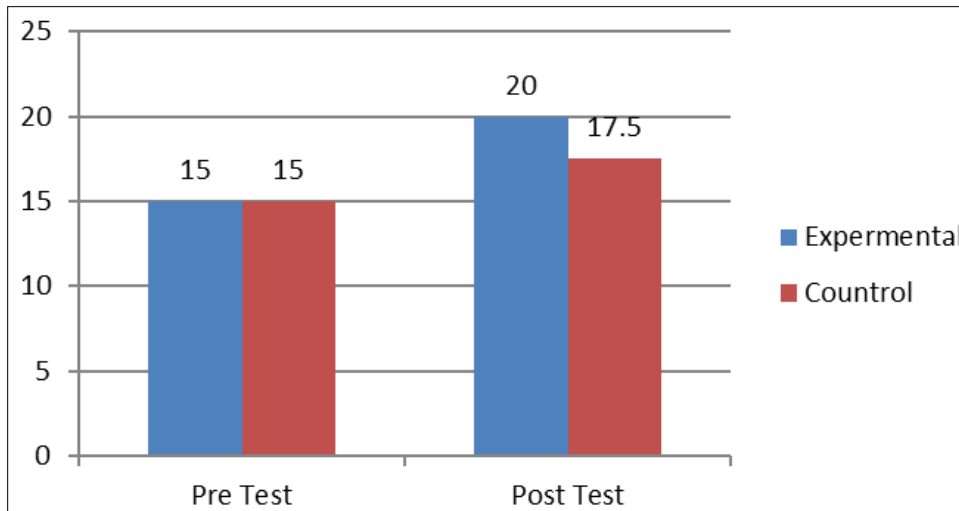


Figure 2. Mean values of Pull ups test between test between experimental and control groups of Volleyball Players.

CONCLUSION

Throwing Events in athletics is all about explosive power. Explosive power is a combination of speed, muscular endurance and muscular strength, all of which can be developed through Motor Physical Fitness Exercises exercises. In a competitive sport such as hokey skills in events overall body strength and ability to Moments quickly are distinct advantage. Competition are according to the Events High Performance. It is concluded that due to Motor Physical Fitness Exercises exercises there will be improvement in shoulder strength and speed among Volleyball players.

REFERENCES

- Adams, K., O'Shea, J.P., O'Shea, K.L., & Climstein, M (1992) The effect of six weeks of squat, Motor Physical Fitness Exercises and squat-Motor Physical Fitness Exercises training on power production." *Journal of Strength and Conditioning Research* 6, 36-41.
- Arazi, H., & Asadi, A. (2011). The effect of aquatic and land Motor Physical Fitness Exercises training on strength, sprint, and balance in young basketball players. *Journal of Human Sport & Exercise*, 6, 101-111.
- Campo S, Vaeyens R, Philippaerts RM, Redondo JC, de Benito AM, et al (2009). Effects of lower-limb Motor Physical Fitness Exercises training on body composition, explosive strength, and kicking speed in female soccer players. *Journal of Strength Conditioning Res.* 23,1714-22.
- Chetna Chaudhary and Birendra Jhajharia, (2010). Effects of Motor Physical Fitness Exercises exercises on selected motor abilities of university level female basketball players." *British Journal of Sports Medicine*, 44,23.
- Christopher C. Michal Lehnert, Ivona Lamrova, Milan Elfmak, (2009). Changes in speed and strength in female volleyball players during and after a Motor Physical Fitness Exercises training programme. *Acta Univ Palacki. Olomuc Gymn.* 39, 1.
- Gullich, A., & Schmidtbleicher D. (1996). MVC induced short term potentiation of explosive force. *New Studies in Athletics* 11, 67-81.
- Horicka, P., Hiank, J., Šimonek, J. (2014). The Relationship between Speed Factors and Agility In Sport Games. *Journal of Human Sport & Exercise*, 9, 49-58.
- Herrero JA, Izquierdo M, Maffiuletti NA & Garcia-Lopez J (2006). Electromyostimulation and Motor Physical Fitness Exercises training effects on jumping and sprint time. *International Journal of Sports Medicine*, 27, 533-539.
- Herrero JA, Izquierdo M, Maffiuletti NA and Garcia-Lopez J (2006). Electromyostimulation and Motor Physical Fitness Exercises training effects on jumping and sprint time. *International Journal of Sports Medicine*, 27 533-539.
- Jadhav, K., M. (2011). Role of Yoga in Volleyball Sport. *Golden Research Thoughts*, 1.
- Jovanovic, M., Sporis, G., Omrcen, D., Fiorentini F. (2011). Effects of Speed Agility Quickness Training Method on Power Performance In Elite Soccer Players. *Journal of Strength and Conditioning Research*, 25, 1285-1292.
- Luebbers, P.E, Potteiger J.A, Hulver M.W, Thyfault J.P, Carper MJ (2003). Lockwood RH. Effects of Motor Physical Fitness Exercises Training and Recovery on Vertical Jump Performance and Anaerobic Power. *J Strength Cond. Res* 17, 704-709.
- Mridha, S. (2010). A Comparative Study on Motor Fitness of 12 to 14 Years Tribal and Non-Tribal Boys. Abstract Book National Conference on Trends & Practices in Physical Education, Department of Physical Education, Vishva Bharti Santiniketan University West Bengal, 1, 11.
- Markovic G, Jukic I, Milanovic D, Metikos D. (2007). Effects of Sprint and Motor Physical Fitness Exercises Training on Muscle Function and Athletic Performance. *J Strength Cond Res* 21, 543-549.
- Nageswaran. A.S, (2015). Eight-week sand-based speed workout applied among Volleyball players. *International Journal of Scientific Research*, 4, 310-312.
- Patel, Harshad I., Patel, Digisha H. (1996). Training Methods and Competition Planning in Physical Education and Sports, Ahmedabad Krishna Graphics.

- Sinku, S.K. (2012). Effect of Health-Related Physical Fitness Programmes on the Cardio-Respiratory Function of Sedentary Students”, *Journal of Exercise Science and Physiotherapy*,8,58-62.
- Sporis, G., Milanovic, L., Jukic, I., Omrcen, D & Molinuevo, J.S. (2010). The Effect of Agility Training on Athletic Performance”. *Kinesiology*, 42, 65-72.
- Sporis, G., Milanovic, Z., Trajkovic, N., & Joksimovic, A. (2011). Correlation Between Speed Agility and Quickness in Elite Young Soccer Players. *Acta kinesiológica*, 5, 36-41.
- Srihari. K, Suthakar. S, & Sundarraj (2018). Effects of Skill Based Motor Physical Fitness Exercises Training on Explosive Power of School Level Volleyball Players”. *International Journal of Recent Research and Applied Studies*, 5.
- Sekulic, D., Spasic, M., Mirkov, D., Cavar, M., Sattler, T. (2013). Gender-Specific Influences of Balance, Speed, and Power on Agility Performance, *The Journal of Strength & Conditioning Research*, 3, 802-811
- Sharma, R. K. (2000). Scientific Principles of Sports Training New Delhi Sports Material Publication. Srivastav Abhaykumar Testing and Measurement Test in Physical Education Nagpur Maharashtra Revised edition.
- Sale DG (2002). Post activation potentiation: Role in human performance. *Exercise and Sport Sciences Reviews* 30, 138-143.
- Singh Sunil (2010). Comparative Between Selected Physical Fitness Variables of Offensive and Defensive Volleyball Players of University Level Abstract Book National Seminar on Recent Trends & Future of Physical Education and Sports Science, Mahatma Gandhi Vidyapith, Varanasi (UP) India Vol. 1, 37.
- Satake, E. B., Jagaroo, V., & Maxwell, D. L. (2008). Handbook of statistical methods: Single subject design. San Diego CA Plural Publishing.
- Thakur Geeta (2011). Comparison of Motor Fitness Components of Rural and Urban School Volleyball Boys.
- Vishnu Raj R (2017) Effect of Motor Physical Fitness Exercises Training on Selected Physical and Physiological Variables Among College Level Volleyball Players. *International Journal of Yoga, Physiotherapy and Physical Education*, 2, 181-184.
- Varma, Prakash J., A (1964) Textbook on Sports Statistics, Gwalior Venus Publication. Victor, Davar, Fitness for Elementary School Children Youth Physical Education Mini Aeolis Verges Publishing co.
- Vivian, H.H. (2006) Advanced fitness assessment and exercise prescription. 5th edition. Human kinetics.
- Young, W B., James, R., and Montgomery, I. (2002). Is Muscle Power Related to Running Speed with Changes of Direction. *Journal of Sports Medicine Physical Fitness*,42, 282-288.
- Young, W. B., Mcdowell, M. H., & Scarlett, B. J. (2001) Specificity of Sprint and Agility Training Methods. *The Journal of Strength & Conditioning Research*, 15,315-319.
- Zabchi Noreddine A, Mokrani Djamel A, Benzidane Houcine A., Sebbane Mohammed (2016). The Effect of the Contrastive Training Using Weights and Motor Physical Fitness Exercises on the Development of the Vertical Jump Ability to Improve the Performance of the Smash for Volleyball Players. *European Journal of Physical Education and Sport*, 11.