International Journal of Computational Research and Development (IJCRD)
Impact Factor: 5.015, ISSN (Online): 2456 - 3137
(www.dvpublication.com) Volume 8, Issue 1, 2023

EFFECT OF FUNCTIONAL FITNESS TRAINING WITH EQUIPMENTS ON RESTING HEART RATE AND BREATH HOLDING TIME AMONG UNIVERSITY MEN STUDENTS

Bogimayum Zayead Khan* & Dr. R. Sevi**

* Research Scholar, Department of Physical Education, Annamalai University, Annamalai Nagar, Chidambaram, Tamilnadu

** Assistant Professor, Department of Physical Education, Annamalai University, Annamalai Nagar, Chidambaram, Tamilnadu

Cite This Article: Bogimayum Zayead Khan & Dr. R. Sevi, "Effect of Functional Fitness Training with Equipments on Resting Heart Rate and Breath Holding Time Among University Men Students", International Journal of Computational Research and Development, Volume 8, Issue 1, Page Number 51-53, 2023.

Abstract:

The purpose of the study was designed to examine the effect of functional fitness training with equipments on resting heart rate and breath holding time of university menstudents. For the purpose of the study, thirty men students studying from various Departments in Annamalai University, Annamalai Nagar, Chidambaram, Tamilnadu, India were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group 1 underwent functional fitness training with equipments for three days per week for twelve weeks. Group 2 acted as control who did not undergo any special training programme apart from their regular physical education programme. The following variables namely resting heart rate and breath holding time were selected as criterion variables.

All the subjects of two groups were tested on selected dependent variables by using leg lift with dynamometer and bend knee sit-ups respectively at prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference, if any among the groups. The .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered as an appropriate. The results of the study showed that there was a significant difference between functional fitness training with equipments group and control group on resting heart rate and breath holding time. And also it was found that there was a significant changeonresting heart rate and breath holding time due to twelve weeks of functional fitness training with equipments.

Key Words: Functional Fitness Training With Equipments, Resting Heart Rate, Breath Holding Time, University Men Students

Introduction:

Functional fitness training with equipment takes the principles of functional movement and enhances them by incorporating various tools and gear to amplify the benefits. This form of exercise goes beyond the typical gym routine, utilizing equipment that challenges the body in a way that closely mirrors real-world activities. By integrating tools such as kettlebells, medicine balls, resistance bands, and more, functional fitness with equipment adds an extra layer of versatility and intensity to your workouts.

In this exploration of functional fitness with equipment, we'll delve into how these tools can be leveraged to improve strength, stability, and overall physical performance. Whether you're a seasoned fitness enthusiast or just starting, the adaptability of equipment-based functional training makes it accessible to individuals of all fitness levels and goals.

The inclusion of equipment allows for targeted muscle engagement, resistance adjustments, and a diverse range of exercises. By simulating everyday movements and challenges with added resistance, functional fitness with equipment not only promotes functional strength but also enhances balance, coordination, and flexibility. The result is a comprehensive workout that translates directly to improved performance in daily activities and sports.

Methodology:

The purpose of the study was designed to examine the effect of functional fitness training with equipments on resting heart rate and breath holding time of university menstudents. For the purpose of the study, thirty men students studying from various Departments in Annamalai University, Annamalai Nagar, Chidambaram, Tamilnadu, India were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group I underwent functional fitness training with equipments for three days per week for twelve weeks. Group 2 acted as control who did not undergo any special training programme apart from their regular physical education programme.

The following variables namely resting heart rate and breath holding time were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables by using leg lift with dynamometer and bend knee sit-ups respectively at prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference, if any among the groups. The .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered appropriate.

Analysis of the Data:

Resting Heart Rate:

The analysis of covariance on resting heart rate of the pre and post test scores of functional fitness training with equipments group and control group have been analyzed and presented in table 1.

Table 1: Analysis of Covariance of the Data on Resting Heart Rate of Pre and Post Tests Scores of Functional Fitness Training With Equipments and Control Groups

Test	Functional Fitness Training With Equipments Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	73.13	73.27	Between	0.13	1	0.13	0.13
S.D.	0.88	0.85	Within	28.67	28	1.02	
Post Test							
Mean	72.07	73.20	Between	9.63	1	9.63	7.30*
S.D.	1.06	1.05	Within	36.97	28	1.32	
Adjusted Post Test							
Mean	72.13	73.14	Between	7.65	1	7.65	56.86*
			Within	3.63	27	0.13	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively).

The table 1 shows that the adjusted post-test means of functional fitness training with equipments group and control group are 72.13 and 73.14 respectively on resting heart rate. The obtained "F" ratio of 56.86 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on resting heart rate.

The results of the study indicated that there was a significant difference between the adjusted post-test means of functional fitness training with equipments group and control group on resting heart rate.

Breath Holding Time:

The analysis of covariance on breath holding time of the pre and post test scores of functional fitness training with equipments group and control group have been analyzed and presented in table 2.

Table 2: Analysis of Covariance of the Data on Breath Holding Time of Pre and Post Tests Scores of Functional Fitness Training with Equipments and Control Groups

Test	Functional Fitness Training With Equipments Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	42.53	41.80	Between	4.03	1	4.03	0.07
S.D.	8.15	6.83	Within	1626.13	28	58.08	
Post Test							
Mean	48.87	42.00	Between	353.63	1	353.63	5.92*
S.D.	6.48	6.42	Within	1671.37	28	59.69	
Adjusted Post Test							
Mean	48.56	42.31	Between	291.75	1	291.75	53.16*
			Within	148.20	27	5.49	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively).

The table 2 shows that the adjusted post-test means of functional fitness training with equipments group and control group are 48.56 and 42.31 respectively on breath holding time. The obtained "F" ratio of 53.16 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on breath holding time.

The results of the study indicated that there was a significant difference between the adjusted post-test means of functional fitness training with equipments group and control group onbreath holding time.

Conclusions:

- There was a significant difference between functional fitness training with equipments group and control group on resting heart rate and breath holding time.
- And also it was found that there was a significant improvement on selected criterion variables such as resting heart rate and breath holding time due to functional fitness training with equipments.

References:

1. Carpes, F. P., Reinehr, F. L., Mota, C. B., & Faria, I. E. (2008). Effects of a program for trunk strength and stability on pain, low back and pelvis kinematics, and body balance: A pilot study. Journal of Bodywork and Movement Therapies, 12(1), 22-30.
2. Folland, J. P., Irish, C. S., Roberts, J. C., Tarr, J. E., & Jones, D. A. (2002). Fatigue is not critically regulated during maximal voluntary isometric contractions of the quadriceps in man. The Journal of Physiology, 542(Pt 3), 953-963.
3. García, M., Cooke, C. B., & Barris, S. (2013). A comparison of the physical and anthropometric qualities explanatory of talent in the elite junior soccer player. Journal of Science and Medicine in Sport, 16(5), 397-403.
4. Gonzalez-Rave, J. M., Arija, A., Clemente-Suarez, V. J., & Martin-Acero, R. (2011). Functional capacity and shooting accuracy status of young elite air-pistol shooters. Journal of Human Kinetics, 29, 115-126.
5. Koh, T. C., & Vanderburgh, P. M. (2007). Effects of training with a stability ball on the endurance, strength and flexibility of women. Perceptual and Motor Skills, 104(3_suppl), 1169-1178.
6. Marques, M. C., Tillaar, R. V. D., Vescovi, J. D., & González-Badillo, J. J. (2007). Changes in strength and power performance in elite senior female professional volleyball players during the in-season: A case study. The Journal of Strength & Conditioning Research, 21(4), 1386-1391.
7. Santos, E. J. A. M., Janeira, M. A. S. S., & Maia, J. A. R. (2010). A multivariate analysis of the variation in specific jump actions in volleyball players of different performance levels. The Journal of Strength & Conditioning Research, 24(8), 2155-2160.
8. Wallmann, H. W., Mercer, J. A., & McWhorter, J. W. (2012). Surface electromyographic assessment of the effect of dynamic activity and dynamic activity with elastic band resistance on lumbar multifidus muscle activation. Journal of Strength and Conditioning Research, 26(11), 3037-3044.
9. M. Suresh Kumar & A. Dinesh Kumar, "Effect of Mental Training on Self Confidence among Professional College Students", International Journal of Recent Research and Applied Studies, Volume 4, Issue 12, Page Number 51-53, 2017.
10. M. Suresh Kumar & A. Dinesh Kumar, “A Statistical Approach towards the Effect of Yoga on Total Cholesterol of Overweight Professional College Students”, International Journal of Recent Research and Applied Studies, Volume 4, Issue 2, Page Number 126-128, 2017.