Publisher
www.theuniversityacademics.com

International Journal of Research Pedagogy and Technology in Education and Movement Sciences
2024 Volume 13 Number 02 APR-JUN

E-ISSN:2319-3050
Research Article
Sports Physiology

A Correlation Study of Recovery Intervention on Systolic Blood Pressure

Pathak M[1], Ahirvar MK[2*]

DOI:https://doi.org/10.55968/ijems.v13i02.442

[1] Minakshi Pathak, Professor, Department of Physical Education, Sri Satya Sai University of Technology Medical Sciences, Sehore, Medhaya Pradesh, India.

[2*] Manoj Kumar Ahirvar, Research Scholar, Department of Physical Education, Sri Satya Sai University of Technology and Medical Sciences, Sehore, Madhya Pradesh, India.

The current research study was to reveal the recovery treatment difference of active recovery, passive recovery and assisted recovery on systolic blood pressure. In this study there are total 54 subjects were taken (18 active recovery, 18 passive recovery and assisted recovery 18 male) all were national player of middle-distance runners from Bhopal SAI centre. Subjects's age was between from 18 to 25 years. The research data were evaluated by blood pressure monitor. The accumulated data was analysed by evaluate the descriptive statistics to figure out standard deviation and mean among active, passive and assisted recovery on systolic blood pressure, and correlation Test. For assessment of Correlation, the level of significant was taken as 0.01 (2-tailed). Statistical evaluation was done by using statistical packages for social science (IBM SPSS 20 Version). As outcome the findings were that the correlation value is having negative relationship among active and assisted recovery (-0.596).Thus, the null hypothesis is failed to accept between active and passive recovery because no relationship occur among them but in case of active and assisted recovery there is a negative relationship which means assisted recovery is more suitable to back to normal systolic blood pressure as compare to active recovery because as active recovery and assisted recovery has inverse relationship and the mean value of assisted recovery method less as compare to other two recovery methods.

Keywords: Systolic Blood Pressure, Active Recovery, Passive Recovery, Assisted Recovery, Relationship

Corresponding Author

Manoj Kumar Ahirvar, Research Scholar, Department of Physical Education, Sri Satya Sai University of Technology and Medical Sciences, Sehore, Madhya Pradesh, India.
Email: manojkumar.nis@gmail.com

How to Cite this Article

Pathak M, Ahirvar MK. A Correlation Study of Recovery Intervention on Systolic Blood Pressure. IJEMS. 2024;13(02):1-5.
Available From
https://ijems.net/index.php/ijem/article/view/442

To Browse

Manuscript Received	Review Round 1	Review Round 2	Review Round 3	Accepted
2024-01-09	2024-01-31	2024-02-03	2024-02-27	2024-03-13

Conflict of Interest	Funding	Ethical Approval	Plagiarism X-checker	Note
Nil	Nil	Yes	9	

INTRODUCTION

Blood pressure is measured using two numbers: your systolic blood pressure, which is the first number, indicates the pressure in your arteries during a pulse. The diastolic blood pressure, which is the second figure, represents the pressure in your arteries in between heartbeats.Muscle recovery requires proper nutrition, water, and rest. Your muscles can only mend the microscopic tears they sustain during exercise during the recovery phase. If you don't give your muscles time to recover, you run the danger of hurting yourself.Time-wise, recuperation is seen to be a complicated restorative process that depends on a number of variables, such as how the person responds to stressful situations, external load, and outside stimuli like competitive sports.

An individual's or team's chances of success are significantly increased when injuries prevent athletes from competing and from practicing as much. Variations in the frequency of injuries also have a big effect on sporting organizations' bottom lines (team underperformance and player wages) because of performance losses brought on by injuries. Athletes are investing more in customized personal support as a means of accelerating their recovery due to growing demands and the significance of boosting recovery.

In order to restore the human body to balance after exercise, it is critical to comprehend the cause of exhaustion. Moreover, knowing where weariness comes from could make it easier to design a suitable recovery plan that will accelerate the body's return to equilibrium. The amount of time it takes for the various organismic systems in the human body to recover from stress brought on by training can vary (Kellmann et al., 2018). Many scientific studies seeking to determine the effectiveness of a variety of frequently used tactics have naturally followed the rising attention on athlete recovery in professional sport. Few research, meanwhile, have been able to show how effective some techniques are in helping athletes recuperate after practice or competition.After an intense workout, you can still engage in active rehabilitation within a day or two. Try taking a leisurely stroll or a short bike ride. You could also attempt yoga, swimming, or stretching. Muscle recovery will be aided by active recovery on your rest days.

While research indicates that stretching does not seem to be able to stop delayed-onset muscle soreness, it can assist prevent injuries and lessen stiffness in the muscles.

Static stretches (holding a stretch for 15–30 seconds) should be done after a vigorous workout, and dynamic or active stretches (such arm circles, walking lunges, and high knees) should be done before.Simple, mild exercise, like going for a bike ride or brisk walk, enhances circulation, which supports the body's natural flow of nutrients and waste products.1. Theoretically, this speeds up muscle regeneration and refueling.A massage helps you feel wonderful, increases circulation, and lets you unwind completely. An proof-based method for selecting post-workout recovery strategies to lower indicators of weariness, inflammation, soreness, and muscle damage.

Sore muscles can be effectively relieved by massaging them using a massage gun. To release tense muscles without paying a hefty sports massage fee, try self-massage and foam roller exercises. Investing a minutes on one of these top roll-up acupressure mats is another way to avoid the cost and hassle of a professional massage.

Therefore in this research study we search that weather there is any relationship between 3 different recovery treatment or not.

PROCEDURE AND METHODOLOGY

In this investigation there are 54 subjects were assessed (18 active recovery, 18 passive recovery and assisted recovery 18 male) all were national player of middle-distance runners from Bhopal SAI centre. Their age between 18 to 25years. Every participant was informed of the goal of the study.Prior to taking part in the testing procedures, each individual gave their consent. The investigation chose the following recovery interventions namely active recovery, passive recovery and assisted recovery on systolic blood pressure for the analysis using the correspondence between the researcher's and expert's understanding and the feasibility criterion. The data were assessed through the equipment blood pressure monitor.

Standard deviation and mean were determined by calculating descriptive statistics and correlation on the gathered dataand relationship among active recovery, passive recovery and assisted recovery

Of systolic blood pressure male middle distance runners. The degree of significance was fixed at 0.05 to test the hypothesis. The statistical analysis was carried out using IBM SPSS 20 Version, one of the statistical tools for social science. Tables 1 and 2 summarize the results, while Figure 1 shows a graphical representation of the standard deviation and mean value.

RESULT AND INTERPRETATION

Table 1- Descriptive statistics for recovery intervention of systolic blood pressure

	Mean	Std. Deviation	N
sbp_act	128.611	7.7394	18
sbp_pass	127.28	7.637	18
sbp_asst	122.3333	5.32475	18

The values of mean and standard deviation recovery intervention for active recovery, passive recovery and assisted recovery male middle distance runners are exhibited in table 1. The mean score of active recovery 128.611±7.7394, mean score of passive recovery is 127.28±7.637, and the mean score of assisted recovery is 122.33±5.324 are shown respectively.

Figure 1- Graphical Representation of active recovery and passive recovery and assisted recovery Mean score and Std. Deviation of systolic blood pressure

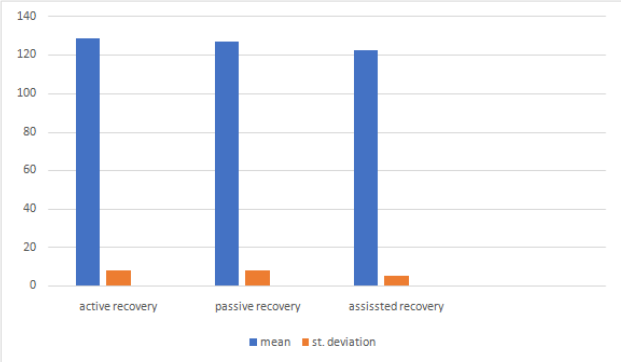

Table-2 Correlations table between active recovery and passive recovery and assisted recovery Mean score and Std. Deviation of systolic blood pressure

		sbp_act	sbp_pass	sbp_asst
sbp_act	Pearson Correlation	1	.333	-.596**
	Sig. (2-tailed)		.176	.009
	N	18	18	18
sbp_pass	Pearson Correlation	.333	1	-.008
	Sig. (2-tailed)	.176		.974
	N	18	18	18
sbp_asst	Pearson Correlation	-.596**	-.008	1
	Sig. (2-tailed)	.009	.974	
	N	18	18	18

**. Correlation is significant at the 0.01 level (2-tailed).

The table states that there is a negative correlation (-0.596) among active recovery and assisted recovery of systolic blood pressure which means assisted recovery is more suitable to back to normal systolic blood pressure as compare to active recovery because as active recovery and assisted recovery has inverse relationship.

DISSCUSION AND CONCLUSION

The findings of the current research study states that it means the recovery treatments of 3 different types are having some relationship so, interaction of recovery treatments with sessions does influence the recovery methods in case of systolic blood pressure where the negative correlation is found in active recovery and assisted recovery with -0.596 which means assisted recovery is more suitable to back to normal systolic blood pressure as compare to active recovery because as active recovery and assisted recovery has inverse relationship.

Gregory C. Bogdanis et. al. (1996) state in their study that throughout the test, there were no variations in changes in arterial blood pressure or plasma volume between active and passive recovery. According to Rahmat Ali Jafari the study come to conclusion that, for any of the dependent variables, there were no discernible differs among the three active recovery techniques and the passive recovery mode. Llion A. Roberts et. al. (2015) according to them their research's results imply that: (1) strength recovery after resistance training is unaffected by variations in muscle temperature and hemodynamics; and (2) Following resistance training, skeletal muscle metabolism needs and ambient temperature affect hemodynamics and muscle temperature. Ice baths, cold water submersion, and ice therapies are examples of cryotherapy treatments that are frequently utilized as a post-exercise recovery aid.The psychological advantages of these therapies, such as decreased evaluations

Of muscle pain and fatigue, contribute to the utilization of this strategy.Benefits of cold water immersing therapies on muscle function and other elements of exercise performance have also been reported in several research.

Therefore in this current research study we conclude that there is no correlation between the three recovery intervention namely active, passive and assisted recovery , whereas we have seen only one relationship that is a negative or inverse relationship among active and assisted recovery treatment, which says that if according to mean value assisted recovery is more suitable to stable the systolic blood pressure at homeostatic level by using assisted recovery methods weather using other recovery methods like active or passive treatments.so we suggest to use assisted recovery methods for normalizing the systolic blood pressure after exercise or workout.

References

1. Bogdanis, G. C. , Nevill, M. E. *, Lakomy, H. K., Graham, C. M., & Louis, G. (1996). Effects of active recovery on power output during repeated maximal sprint cycling. European journal of applied physiology and occupational physiology, 74(5), 461-469 [Crossref][Google Scholar]*

2. De Oliveira, L. S. , Fontes, A. M. *G., Vitor, A. L. R., Vanderlei, F. M., Garner, D. M., & Valenti, V. E. (2020). Lower systolic blood pressure in normotensive subjects is related to better autonomic recovery following exercise. Scientific reports, 10(1), 1006 [Crossref][Google Scholar]*

3. Dimkpa, U. , & Ugwu, A. C. (2010). *Independent multiple correlates of post-exercise systolic blood pressure recovery in healthy adults. International journal of exercise science, 3(1), 25 [Crossref] [Google Scholar]*

4. Ellis, K. , Pothier, C. E. , Blackstone, E. *H., & Lauer, M. S. (2004). Is systolic blood pressure recovery after exercise a predictor of mortality?. American heart journal, 147(2), 287-292 [Crossref] [Google Scholar]*

5. Jafari, R. A. (2021). Responses of blood lactate concentration, heart rate, and blood pressure using three active recovery methods versus passive recovery after an exhaustive exercise in young elite wrestlers. *Journal of Exercise and Health Science, 1(2), 35-54 [Crossref][Google Scholar]*

6. Laukkanen, J. A. , Willeit, P. , Kurl, S. *, Mäkikallio, T. H., Savonen, K., Ronkainen, K., & Rauramaa, R. (2014). Elevated systolic blood pressure during recovery from exercise and the risk of sudden cardiac death. Journal of hypertension, 32(3), 659-666 [Crossref][Google Scholar]*

7. Laukkanen, J. A. , Willeit, P. , Kurl, S. *, Mäkikallio, T. H., Savonen, K., Ronkainen, K., & Rauramaa, R. (2014). Elevated systolic blood pressure during recovery from exercise and the risk of sudden cardiac death. Journal of hypertension, 32(3), 659-666 [Crossref][Google Scholar]*

8. Mandeep Singh Nathial, Analysis of set shot in basketball in relation with time to perform the course and displacement of center of gravity, American Journal of Sports Science, Vol. 2 Issue. 5 pp: 122-126 (2014). Retrieved from https://www. *sciencepublishinggroup.com/journal/paperinfo.aspx?journalid=155&doi=10.11648/j.ajss.20140205 [Crossref][Google Scholar]*

9. Mandeep Singh (2010). Evaluation And Improvement Of Sports Techniques Through Biomechanical Updated Analyzing Technology, University News, Journal of Higher Education Association of Indian Universities, Association of Indian Universities, Vol:48:Issue. 05;2010 Pp45-57, 2010. . *sciencepublishinggroup.com/journal/paperinfo.aspx?journalid=155&doi=10.11648/j.ajss.20140205 [Crossref][Google Scholar] [Crossref][Google Scholar]*

10. Mandeep Singh Nathial, A Study of Adjustment and Emotional Intelligence of University Coaches in India,American Journal of Applied Psychology. Volume 3, Issue 6, November 2014 , pp. 122-126. doi: 10. *11648/j.ajap.20140306 [Crossref][Google Scholar]*

11. Nathial, Mandeep Singh. A COMPARATIVE AND ANALYTICAL STUDY OF SELF-ESTEEM AND JOB SATISFACTION IN ATHLETES AND NON ATHLETES. Journal of Advances in Social Science and Humanities,2(10). https://doi. *org/10.15520/jassh210123 [Crossref][Google Scholar]*

12. Singh, M. , Kour, R. , & Kour, A. ,. *A collaborative diversified investigation of respective responses of sports person coaches and organizations on criminalization of doping.International Journal of Health Sciences,6(S3), 11295–11310. [Article][Crossref] [Google Scholar]*

13. Roberts, L. A. , Muthalib, M. , Stanley, J. , *Lichtwark, G., Nosaka, K., Coombes, J. S., & Peake, J. M. (2015). Effects of cold water immersion and active recovery on hemodynamics and recovery of muscle strength following resistance exercise. American Journal of Physiology-Regulatory, Integrative and Comparative Physiology, 309(4), R389-R398 [Crossref][Google Scholar]*