

Effect Of Harness Training On Muscular Strength And Flexibility Of Long Jumpers

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ABSTRACT:

The Purpose Of The Study Was To Find Out The Effect Of Harness Training On Muscular Strength And Flexibility Of Junior Level Long Jumpers. For This Purpose Forty (N=40) Long Jumpers From Chennai District Were Selected Randomly As Subjects. The Age Of The Subjects Ranged From 12-14 Years. The Selected Subjects Was Divided Into Two Groups Such As Experimental And Control. Each Group Consisted Of Twenty (N=15) Subjects. Experimental Group Underwent Harness Training For A Period Of Eight Weeks Of Three Different Days. Control Group Who Were Not Engaged In Any Specific Activities Other Than Daily Routine. The Selected Criterion Variables Such As Muscular Strength And Flexibility Were Assessed By Using The Standardized Test. The Random Group Experimental Design Was Used For This Study. The Pre And Post Test Data Was Collected Prior And Immediately After The Eight Weeks Of Training Period. The Data Was Statistically Analyzed With Paired Sample "T" Test. In All The Cases 0.05 Levels Was Fixed As Level Of Significance. The Result Of The Study Proved That There Was Significant Improvement On Muscular Strength And Flexibility Of Junior Level Long Jumpers Due To Eight Weeks Of Harness Training.

Keywords:

Harness Training, Muscular Strength And Flexibility

I. INTRODUCTION

Harness Resistance Training (Ert) As A Modality And Therapy Intervention Gained Popularity In The 1980s And Has Continued To Grow In Popularity In Recent Years. It Has A Number Of Benefits, Including Greater Functional Capacity, Greater Strength And Endurance With Greater Muscular Activation, And Enhanced Body Composition, Potency, And Overall Quality Of Life. Additionally, It Is Convenient To Use Due To Its Inexpensive Cost And Ability To Be Utilised In A Variety Of Locations.

Strength Training Is Described As The Systematic Repetition Of Movements That Affect The Structure And Function Of Tissues. To Achieve High Levels Of Performance In This Circumstance, The Proposed Training Should Be Based On Biological Principles Of Training. Numerous Studies Suggest That Strength Training Can Improve Outcomes Related To Functioning, Balance, Cardiovascular Conditioning, Disposition, And Quality Of Life, Resulting In A Decreased Risk Of Chronic Injury.

Training With Harness Is A Great Way To Build Muscular Strength While Improving Flexibility

Balance. Because It Can Be Used In A Variety Of Ways, It Can Increase The Strength And Improve The Muscle Tone Progressively. Harness Band Training Provides A Linear Form Of Resistance Which Allows Getting A Larger Range Of Motion Than Other Strength Training Methods. Before Starting Harness Band Training, It's Important To Inspect The Band And Prepare It For Use.

Harness Training Is An Excellent Approach To Increase Physical Strength While Also Increasing Flexibility And Balance. Because It May Be Utilised In A Number Of Ways, It Can Gradually Enhance Strength And Tone. Harness Band Training Provides A Linear Form Of Resistance That Enables A Greater Range Of Motion Than Other Techniques Of Strength Training. Prior To Beginning Harness Band Training, It Is Critical To Inspect And Prepare The Band For Use.

Harness Training Improve The Strength Of The Muscles, Increases Their Muscular Endurance, And Increases Their Flexibility. Resistance Exercise Primarily Results In An Increase In The Diameter Of Muscle Fibres. Muscle Protein Content Increases Fast

During This Workout, Resulting In Metabolic Reactions. Harness Training Can Result In Muscular Hypertrophy, Partially Via Enlarging Muscular Fibres. Additionally, Resistance Exercise Can Shift The Fibre Type Distribution In Favour Of Quicker Twitch Fibres. Strength Training Also Has A Neuromotor Effect, And Some Of The Improvement In Muscle Strength Can Be Linked To Nervous System Alterations. Muscular Strength Training With Isolated Motions Appears To Be Directly Related To Training Speeds.

1.1 Statement Of The Problem

The Purpose Of The Study Was To Find Out The Effect Of Harness Training On Muscular Strength And Flexibility Of Junior Level Long Jumpers.

1.2 Objectives Of The Study

1. To Assess The Effect Of Harness Training On Muscular Strength And Flexibility Junior Level Long Jumpers.
2. To Find Out The Differences Between Experimental And Control Groups Muscular Strength And Flexibility Junior Level Long Jumpers.

2. Materials And Methods

Thirty Junior Level Long Jumpers (N=40) Were Picked At Random From Tamilnadu, Chennai District. The Subjects Were Divided Into Two Groups Of Twenty (N=20), With Group I Serving As The Experimental Group And Group Ii Serving As The Control Group. The Participants Ranged In Age From 12 To 14. The Criterion Variables Were Chosen To Be Muscular Strength And Flexibility. The Sit-Up Test Was Used To Assess Muscular Strength, While The Sit-

And-Reach Test Was Used To Assess Long Jumpers' Flexibility.

2.1 Training Intervention

For Eight Weeks, The Experimental Group Was Expected To Complete Three Resistance Band Training Sessions Each Week On Alternate Days, Tuesday, Thursday, And Saturday. Thus, The Program Entailed 24 Training Workouts Session. However, The Duration Of Each Training Session Is 35-40 Minutes, The Training Began With A Period Of 10 Minutes Standardized Warm – Up Routine Consisting Of Running, Calisthenics, And Stretching Was Used. 5-10 Minutes Of Warm Down Made Comprised The Harness Training Regimen. Before The Ignition Of The Training Programs, The Participants Of Experimental Group Were Instructed About The Proper Execution Of The Exercises.

In Creating The Resistance Band Training Program, We Adhered To The Principle That Load During The Phase I And Ii Should Be 60% To 80% Of The Maximum And 85% During The Phase Iii And Iv From The Initial Load Of The Participants Which Is Fixed At The Pilot Study.

2.2 Statistical Analysis

Descriptive Statistics Were Derived For All Test Variables Using Spss (20). Changes In Muscular Strength And Flexibility Between The Groups Were Assessed By Using Paired Sample “T” Test. The Level Of Confidence Was Fixed At 0.05 To Test The Significance.

3. Results And Discussions

Table 1: Descriptive Statistics, Paired Sample ‘T’ Test On Of Experimental And Control Groups

Variables	Group	Pre	Post	‘T’ Value	P Value
Muscular Strength	Experimental	41.05	44.14	4.21*	0.01
	Control	41.21	41.34	0.71	0.232
Flexibility	Experimental	20.95	23.44	3.22*	0.02
	Control	20.45	20.92	0.22	0.326

*Significant At 0.05 Level.

The Pretest Mean Value For Muscular Strength In The Experimental Group Was 41.05, Whereas The Posttest Mean Value Was 44.14. The Control Group Pretest Mean Value For Muscular Strength Was 41.21, And The Posttest Mean Value Was 41.34. After Eight Weeks Of Harness Training The T-Value Of 4.21 In The Experimental Group Showed A Significant

($P < 0.05$) Improvement On Muscular Strength. The T-Value For The Control Group (0.71), On The Other Hand, Was Not Significant ($P > 0.232$).

The Pretest Mean Value For Flexibility In The Experimental Group Was 20.95, Whereas The Posttest Mean Value Was 23.44. The Control Group Pretest Mean Value For Flexibility Was 20.45, And The

Posttest Mean Value Was 20.92. After Eight Weeks Of Harness Training The T-Value Of 3.22* In The Experimental Group Showed A Significant ($P < 0.05$) Improvement On Muscular Strength. The T-Value For The Control Group (0.22), On The Other Hand, Was Not Significant ($P > 0.326$).

Figure 1 & 2 Shows Pre And Post Test Mean Values Of The Experimental And Control Groups On Muscular Strength And Flexibility Respectively In A Diagram In Order To Better Explain The Effects Of The Analysis.

Figure 1
Means Comparison On Muscular Strength

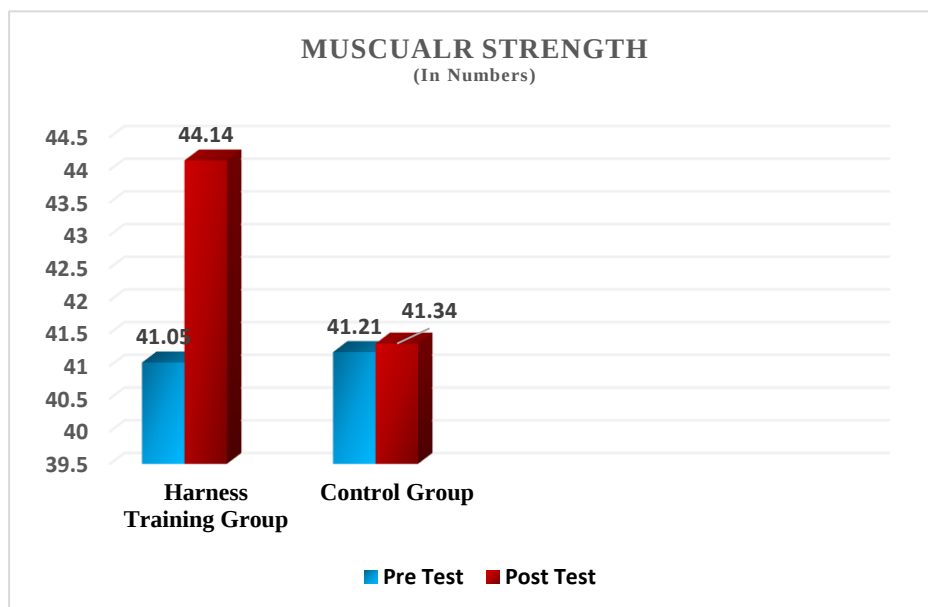
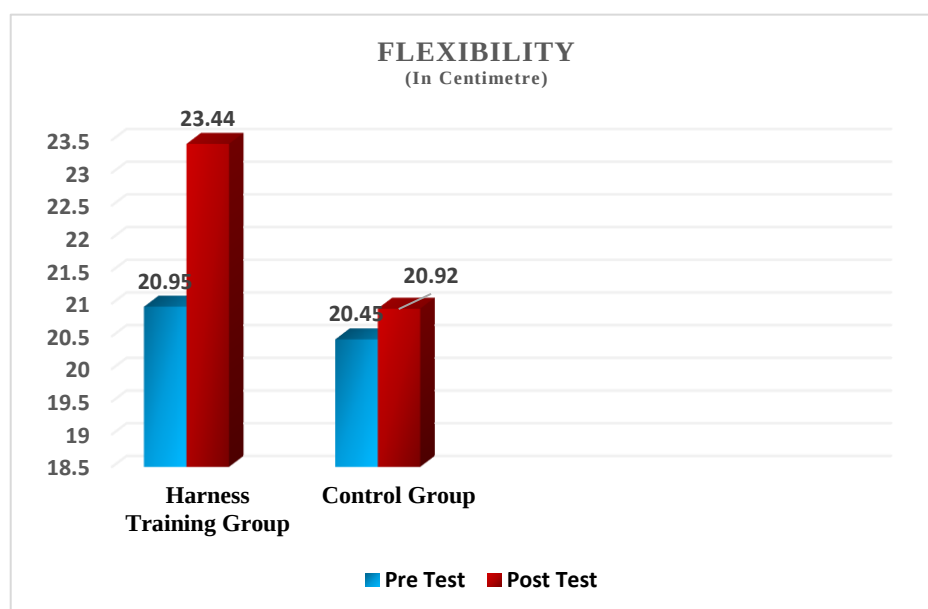


Figure 2
Means Comparison On Flexibility



3.1 Discussion On Findings

On The Basis Of The Result It Was Conducted That The Effect Of Plyometric Training Improved Speed And Agility Of Junior Level Long Jumpers.

The Findings Revealed That Harness Training Enhanced Selected Criterion Variable Such As Muscular Strength Of Junior Level Long Jumpers. The Conclusion Which Is In Agreement With Those Of Major & Sivakumar. (2019), Tiana Et Al., (2010 And Sandor Et Al (2009). Harness Training Influences Muscle Growth By Improved Production Of Myofibril, Which Improves Muscle Fibers' Thickness. As The Massive Skeletal Muscles In Body Builders And Others Illustrate, This Extra Structure Results In Hypertrophy. This Is The Reason To Improve The Muscular Strength Performance Of Junior Level Long Jumpers

The Findings Revealed That Harness Training Enhanced Selected Criterion Variable Such As Flexibility Of Junior Level Long Jumpers. The Conclusion Which Is In Agreement With Those Of Wilcost Et Al., (2001), Nathan Et Al., (2005) And Antonio Et Al., (2005). After The Workout, A Certain Level Of Muscle Growth Allows For More Fibres To Be At The Same Rate. As Each Fibre Has The Same Versatility As The Original Fibre In That Region, The Muscle Can Be Expanded. The Harness Strength Training Also Increase The Elasticity Of The Muscles. There Are The Reasons Why Training In Harness Helps Improve Flexibility.

It Was Concluded That, The Systematically Designed Harness Training May Be Given In The Training Programmes Of All The Disciplines In Order To Achieve Maximum Performance

Conclusions

1. In Conclusion, It Was Demonstrated That, The Eight Weeks Of Systematically Designed Harness Training Proved Improved Muscular Strength Of Junior Level Long Jumpers.
2. In Conclusion, It Was Proved That, The Eight Weeks Of Systematically Designed Harness Training Improved Flexibility Level Of Junior Level Long Jumpers.

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