



INFLUENCE OF BULGARIAN BAG TRAINING AND KETTLE BELL TRAINING PACKAGES AND ITS IMPACTS ON SELECTED PHYSICAL VARIABLES AMONG HANDBALL PLAYERS

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Cite This Article: Dr. C. Vairavasundram, "Influence of Bulgarian Bag Training and Kettle Bell Training Packages and Its Impacts on Selected Physical Variables among Handball Players", *International Journal of Scientific Research and Modern Education*, Volume 2, Issue 2, Page Number 1-4, 2017.

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Abstract:

The purpose of the study was to investigate the influence of Bulgarian bag and Kettle bell training packages on selected physical parameters namely agility and balance among Handball players. To achieve the purpose of the study 45 male Handball players have been randomly selected from various college in and around Tiruchirappalli District, Tamil Nadu state, India. And their age ranged from 18 to 25 years. The subjects had past experience of at least four years in handball and only those who represented their respective college teams were taken as subjects. The selected subjects were divided into three groups of fifteen subjects each namely two experimental groups and control group. Group-I undergone Bulgarian bag training and group-II undergone Kettle bell training respectively. The control group was not exposed to any specific training /conditioning programme. The both experimental treatment was administered for duration of six weeks 3 day a week, one session per day and each session lasted 90 minutes. A series of physical variables were assessed by using standardized tests namely shuttle run and stork balance test. The pre-test and post-test random group was used in this study. The collected data were analysed statistically through descriptive analysis and analysis of covariance (ANCOVA) to find out the significance difference, if any, between the groups. The result of the study shows that there was significant differences existed between Bulgarian bag, Kettle bell training, and control groups. The Bulgarian bag training and Kettle bell training had shown significant improvement in all selected physical variables among the Handball players. The Bulgarian bag training and Kettle bell training had registered significant level difference in agility and balance among Handball players. The Bulgarian bag and Kettle bell trainings had shown significant improvement among handball players.

Introduction:

The scale of sports activity across the world at the start of the twenty-first century is immense. The multi-million pound figures that are paid for television rights, and to top performers in wages and sponsorship agreements, rely on the idea that there is an insatiable appetite amongst the viewing population for sport. Modern sport emerged as part of a range of social changes that were the product of the industrial revolution. In the ensuing century and a half since many of the major sporting associations came into existence, the sport and leisure industry has grown to be one of the biggest in the world. In recent years the continuing speed and scale of growth within the sports market on a global scale has appeared unstoppable. The cost of television rights for sporting events of all kinds have soared, sports clubs have been successfully floated on the stock market and major events such as the Football world cup finals and the Olympics grow ever bigger and costlier. Whether sport can continue with its incredible level of success remains to be seen. Will the Athens Olympics of 2004 be as successful as those held in Sydney in 2000 will the viewer's begin to desert televised Football in large numbers will Nike continue to sign multi-million pound deals with sports stars to promote its products. They are, however, indicative of the importance of sport within the global society, and illustrative of its social, economic and political importance. Sport, it can be argued, is everywhere. From children kicking or throwing a ball on any patch of ground, to the stars of the Football pitch or Basketball court, sport captivates us all. Its global presence is undeniable. We cannot turn on our television sets without seeing sport. General and dedicated radio stations keep us constantly abreast of the latest sports news, while the ever-growing number of daily sporting newspaper supplements and specialist magazines inform us of every minutes of sporting activity. The internet has been embraced by sports clubs and organizations, as well as fans across the world, as another medium through which sport can be promoted, discussed and enjoyed. In all forms of sponsorship and advertising, the sports star is dominant. There is not a product that is not connected to either individual sports players or an event. Many companies believe that the sponsorship of sport will bring them much needed publicity, raise their profile and increase their sales. Sport has a great cultural resonance. It is important in people's daily lives, and serves to bring people together. For many Sports is central to their sense of identity. It provides them with a focus for their lives, a group of friends with a common interest, and a series of games and events around which they can organize and Centre their life. (Routledge, 2002)

Methodology:

The objective of the study was to design Bulgarian bag and Kettlebell training and to see its impact on selected physical variables among handball players. Thirty male handball players from Bharthidasan University, Tiruchirappalli, Tamilnadu state, India, were randomly selected and their ranged from 18 to 25 years. For the present study pretest posttest randomized group design which consists of control group and experimental groups was used. The subjects were randomly assigned to three equal groups of fifteen each and named as Group ‘A’ and ‘B’ experimental and ‘C’ acted as control and not exposed to and specific training/conditioning. The physical and performance related variables namely, agility and balance respectively was measured by shuttle run and stork balance test. The data was analyzed by applying analysis of co-variance ANCOVA technique to find out the influence of Bulgarian bag and Kettlebell training programme. The level of significance was at 0.05.

Table 1: Analysis of Covariance of the Data on Agility of Pre, Post and Adjusted Post Tests Scores of Control and Experimental Groups (In Seconds)

| Test | CG | BBTG | KBTG | SOV | SS | df | MS | F-ratio |
|---------------------------|------|------|------|-----|------|----|-------|---------|
| Pre-Test | | | | | | | | |
| Mean | 5.69 | 5.58 | 5.70 | B.M | 0.12 | 2 | 0.06 | 0.97 |
| SD(±) | 0.22 | 0.25 | 0.27 | W.G | 2.60 | 42 | 0.06 | |
| Post –Test | | | | | | | | |
| Mean | 5.53 | 4.87 | 5.17 | B.M | 3.27 | 2 | 1.63 | 18.28* |
| SD(±) | 0.37 | 0.67 | 0.31 | W.G | 3.75 | 42 | 0.08 | |
| Adjusted Post-Test | | | | | | | | |
| Mean | 5.52 | 4.89 | 5.16 | B.S | 2.92 | 2 | 1.464 | 16.78* |
| | | | | W.S | 3.57 | 41 | 0.08 | |

* Significant at 0.05 level of confidence

(The table values required for significance at 0.05 level of confidence for 2 & 42 and 2 & 41 are 3.22 and 3.23 respectively).

The table 1 shows that the pre-test mean values on agility of Control, Bulgarian bag training and Kettle bell training groups are 5.69, 5.58 and 5.70 respectively. The obtained ‘F’ ratio 0.97 for pre-test scores was less than the table value, 3.22 for df 2 and 42 required for significance at 0.05 level of confidence on agility. The post-test mean values on agility of Control, Bulgarian bag training and Kettle bell training groups are 5.53, 4.87 and 5.17 respectively. The obtained ‘F’ ratio 18.28 for post-test scores was greater than the table value 3.22 for df 2 and 42 required for significance at 0.05 level of confidence on agility. The adjusted post-test means of control, Bulgarian bag training and Kettle bell training groups are 5.52, 4.89 and 5.16. The obtained ‘F’ ratio of 16.78 for adjusted post-test means was greater than the table value of 3.23 for df 2 and 41 required for significance at 0.05 level of confidence on agility. The results of the study indicated that there was a significant difference among the adjusted post-test means of Control, Bulgarian training and Kettle bell training groups on agility.

Since the obtained ‘F’ ratio value was significant further to find out the paired mean difference, the scheffe’s test was employed and presented in table-2

Table 2: The Scheffe’s Test for the Difference between Paired Means on Agility

| CG | BBTG | KBTG | MD | CI |
|------|------|------|-------|------|
| 5.52 | 4.89 | --- | 0.63* | 0.25 |
| 5.52 | --- | 5.16 | 0.36* | |
| --- | 4.89 | 5.16 | 0.27* | |

* Significant at 0.05 level of confidence.

The table 2 shows that the mean difference values between Control group and Bulgarian bag training group; Control group and Kettle bell training group & Bulgarian bag training group and Kettle bell training group are 0.63, 0.36 and 0.27 respectively, which are greater than the confidence interval value 0.25 at 0.05 level of confidence. The results of the study showed that there were a significant difference between Control group and Bulgarian bag training group; Control group and kettle bell training group & Bulgarian bag training group and Kettle bell training group on agility.

The pre, post and adjusted post-test means values of Control, Bulgarian bag training and Kettle bell training groups on agility are graphically represented in the figure 1.

Table 3: Analysis of Covariance of the Data on Balance of Pre, Post and Adjusted Post Tests Scores of Control and Experimental Groups (In Seconds)

| Test | CG | BBTG | KBTG | SOV | SS | df | MS | F-ratio |
|-----------------|-------|-------|-------|-----|---------|----|-------|---------|
| Pre-Test | | | | | | | | |
| Mean | 54.96 | 57.58 | 56.20 | B.M | 51.84 | 2 | 25.92 | 1.05 |
| SD(±) | 6.26 | 4.33 | 3.92 | W.G | 1028.20 | 42 | 24.48 | |

| Post –Test | | | | | | | | |
|--------------------|-------|--------|--------|------------|----------|----|----------|--------|
| Mean | 53.63 | 156.43 | 124.44 | B.M | 83030.65 | 2 | 41515.32 | 44.87* |
| SD(±) | 8.84 | 37.83 | 35.57 | W.G | 38862.57 | 42 | 925.29 | |
| Adjusted Post-Test | | | | | | | | |
| Mean | 52.40 | 157.71 | 124.40 | B.S | 82972.02 | 2 | 41486.01 | 44.85* |
| | | | | W.S | 37930.44 | 41 | 925.13 | |

* Significant at 0.05 level of confidence

(The table values required for significance at 0.05 level of confidence for 2 & 42 and 2 & 41 are 3.22 and 3.23 respectively).

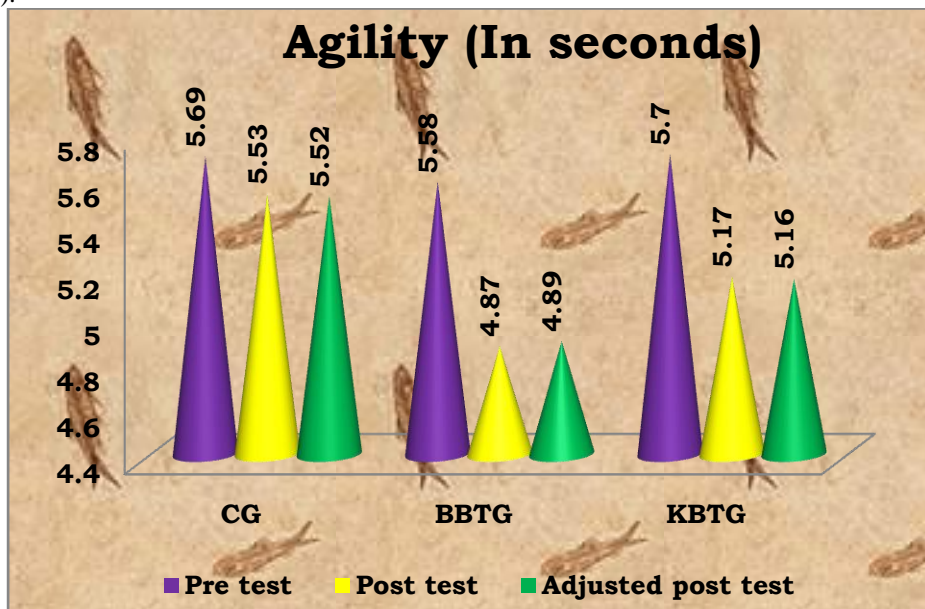


Figure 1: The graphical representation of the pre, post and adjusted post-test means values of Control group, Bulgarian bag training group and Kettle bell training group on agility.

The table 3 shows that the pre-test mean values on balance of Control, Bulgarian bag training and Kettle bell training groups are 54.96, 57.58 and 56.20 respectively. The obtained ‘F’ ratio 0.42 for pre-test scores was less than the table value, 3.22 for df 2 and 42 required for significance at 0.05 level of confidence on balance. The post-test mean values on balance of Control, Bulgarian bag training and Kettle bell training groups are 53.63, 156.43 and 124.44 respectively. The obtained ‘F’ ratio 44.87 for post-test scores was greater than the table value 3.22 for df 2 and 42 required for significance at 0.05 level of confidence on balance. The adjusted post-test means of control, Bulgarian bag training and Kettle bell training groups are 52.40, 157.71 and 124.40. The obtained ‘F’ ratio of 44.85 for adjusted post-test means was greater than the table value of 3.23 for df 2 and 41 required for significance at 0.05 level of confidence on balance. The results of the study indicated that there was a significant difference among the adjusted post-test means of Control, Bulgarian bag training and Kettle bell training groups on balance.

Since the obtained ‘F’ ratio value was significant further to find out the paired mean difference, the scheffe’s test was employed and presented in table-3

Table 4: The Scheffe’s Test for the Difference between Paired Means on Balance

| CG | BBTG | KBTG | MD | CI |
|-------|--------|--------|--------|------|
| 52.40 | 157.71 | --- | 105.3* | 0.25 |
| 52.40 | --- | 124.40 | 72* | |
| --- | 157.71 | 124.40 | 33.31* | |

* Significant at 0.05 level of confidence.

The table 4 shows that the mean difference values between Control group and Bulgarian bag training group; Control group and Kettle bell training group & Bulgarian bag training group and Kettle bell training group are 105.31, 72 and 33.31 respectively, which are greater than the confidence interval value 0.25 at 0.05 level of confidence. The results of the study showed that there were a significant difference between Control group and Bulgarian bag training group; Control group and kettle bell training group & Bulgarian bag training group and Kettle bell training group on balance.

The pre, post and adjusted post-test means values of Control, Bulgarian bag training and Kettle bell training groups on balance are graphically represented in the figure 2

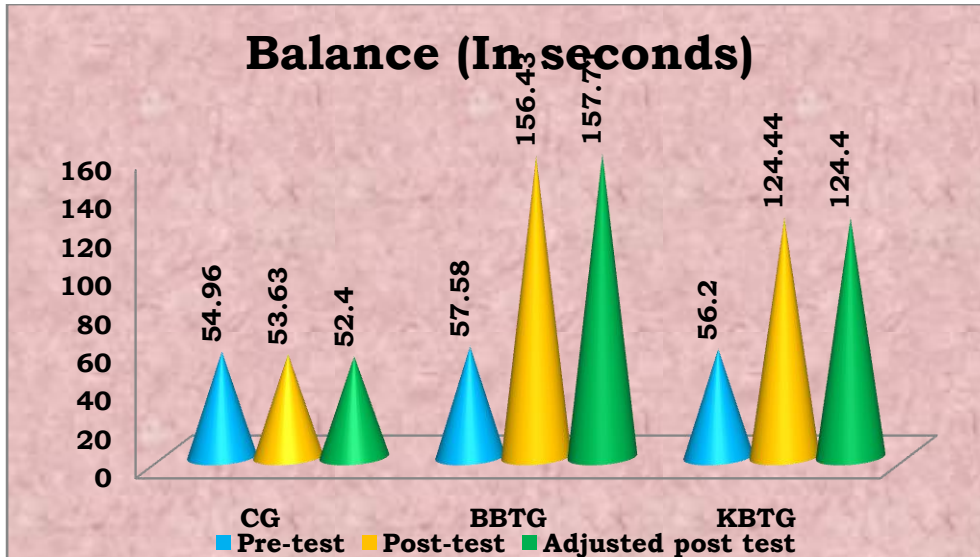


Figure 2: The graphical representation of the pre, post and adjusted post-test means values of Control group, Bulgarian bag training group and Kettle bell training group on balance.

Discussion on Findings:

The findings of the present study have strongly indicates that Bulgarianbag and Kettlebell training packages of six weeks has shown significant improvement in all the selected physical variables namely agility and balance of handball players Rathbun 2009 observed that kettle bell is the basic exercise for the improvement of upper and lower extremities, the handle of kettle bell is used to make the swing action.

Conclusion:

From the analysis of data, the following conclusions were drawn.

- ✓ The experimental group showed significant improvement in all the selected physical related variables such as agility and balance after undergoing six weeks of Bulgarian bag and Kettle bell training packages.
- ✓ The control group did not show significant improvement in any of selected variables.

References:

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