A Comparative Analysis of Physical Fitness between Senior and Junior Group of Handball Women Players

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Introduction

It is an accepted fact that experienced people can perform better than the inexperienced ones in sports competitions. But in case of physical fitness it may not be correct because the level of physical fitness or performance in various motor abilities is determined by genetical factors, efforts and amount of training one has executed for the development of various abilities. Top form is a product of training state and interrelationship among various performance factors.

Objective of the Study

To compare the fitness level of senior level Handball girls with the junior level girls.

Material and Methods

The subject for this study were 30 Senior Women Handball players and 30 Junior girls Handball players participating national tournament.

Tools and Technique

To analyze the raw data 't' test was applied to compare the test results of both the groups to find out significance of difference.

Criterion Measures

The criteria adopted to record the various physical fitness variables is given in table-1.

Analysis of Data

The raw data was analyze by applying 't' test results are presented in table -2.

Results and Discussion

Average values for both the groups are presented in table No.2. The mean values of 202.81$\pm$13.76 and 194.48 $\pm$15.62 in standing broad jump for senior and junior groups respectively showed a difference of 8.33 cms. When the 't' test was applied the mean difference of 8.33 was found not significant. The obtained 't' value was 1.83.

The mean values of 7.18±0.171 and 7.16±0.181 in 50 m test was found for senior and junior groups respectively. Junior girls were found to be superior by 0.02c seconds. But the 't' value of 0.367 was not statistically significant.

The shoulder strength was assessed through over head backward throw (4 kg medicine ball) test. The mean value difference of 0.72 meters when statistically analysed was found to be significant. It indicates a clear cut dominance of senior group is shoulder strength.

Semo Agility test was used to assess the level of coordination/agility in running. 't' value of 3.198 was found to be significant.

The mean value of 1233.95±56.41 and 1288.10 ±53.16 was found in 6 minute endurance run test for senior and junior group respectively. The mean difference of 54.15 meters with obtained 't' value of 3.20 was found to be statistically significant.

Table 1

S.No.	Factor measured	Tests	Units
1.	Leg strength	Standing broad jump	Cms
2.	Speed	50 meter Run	Seconds
3.	Shoulder and back strength	Overhead backward throw (4 kg Medicine ball)	Meters
4.	Agility/Coordinative abilities	Semo agility test	Seconds
5.	Endurance	6 Minute run	Meters

Table–2

Significance of Difference between Senior and Junior Handball Women players in various Fitness Tests

Tests	Senior Group	Junior Group	Mean difference	't'
Standing broad jump	202.81±13.76	194.48±015.62	8.33	1.834
50 meter run	7.18±0.171	7.16±0.181	0.02	0.367
Over head backward throw (4 kg Medicine ball)	7.52±0.97	6.80±0.75	0.72	2.68*
Semo agility test	11.61±0.398	12.04±0.462	–0.43	3.198*
6 minute run	1233.95± 056.41	1288.10±53.16	–54.15	3.20*

***Significant at 0.05 level of significance**

Conclusions

- There is no significant difference between senior and junior Handball women players in 50 meter speed and standing broad jump test performances.
- Senior group is better than junior group, with a significant difference, in shoulder strength.
- Junior group is superior to senior group in agility and cardiovascular endurance.

References

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