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Review Of Research

WOMEN AND ABILITY OF BALANCE

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ABSTRACT

Balance is considered as an important coordinative component of physical fitness. Experts have identified two types of balance – static and dynamic. The purpose of this study was to analyze the variation of balance ability of normal healthy persons with respect to age. The study was delimited to the female populations only. Thirty subjects were randomly selected from each of the eight age groups- 6 years, 10 years, 20 years, 30 years, 50 years, 60 years and 70 years. Static Balance was measured by Stork Stand Test and Dynamic Balance was measured by Bass Dynamic Balance Test. Result showed that both the static and Dynamic Balance increased with increase of age and become highest in magnitude for the 20+ age. There after the balance ability showed gradual diminishing trend and after forty years the decrease was rapid.

KEY WORD: Static balance, dynamic balance

INTRODUCTION:

Balance is considered to be an important physical fitness component. Balance ability influences maintenance of posture in both static and dynamic conditions. In day today living human beings depend on balance ability during their normal movement activities. Lack of balance creates problem and sometime causes injury due to imbalance conditions. In Physical Education and Sports balance ability has been duly emphasized during executing motor skill and sports techniques. Almost all games and sports involved balance ability directly or indirectly. Some among them depend more on this ability such as gymnastics and yogic activities. Mechanically balance has been defined as a state of rest. The basic conditions that should be fulfilled are- The result of sum of all vector forces acting on the body should be

zero. The result of sum of all moments of force acting on the body must be zero. In reality the experts have emphasized on the concept of dynamic balance also. There are many factors that influence the balance ability of a person among them chronological age is very important. The general trend indicated by research finding is balance ability decreases with increase of age.1. (Colledge et al., 1994; Du Pasquier et al., 2003; Ekdahl et al., 1989; Era and Heikkinen., 1985; Gill et al., 2001; Matherson et al., 1999; Pohonen, 2001; Rgind et al., Straube et al., 1988). In longitudinal studies, findings have indicated that the balance deterioration in people over 75 years of age has been shown to be more pronounced. 2. (Baloh et al., 1998; Du Pasquier et al., 2003; Era et al., 2002).

AIM AND OBJECTIVES: In the present study attempt has been made to analyze the specific changes in balance ability that take place in different ages of females.

METHODS: 30 subjects for each of the eight age groups 6, 10, 20, 30, 40, 50, 60 and 70 years were randomly selected for this study. Static Balance was measured by Stock Stand Test and Dynamic Balance was measured by Bass Dynamic Balance Test.

RESULT AND DISCUSSION:

The Mean and Standard Deviation of Balance Ability of different age groups have been shown in table no.-1

Table no. -1
Mean and Standard Deviation of balance ability of different age groups of subjects

Groups(in years)	Mean	
	Static Balance(in seconds)	Dynamic Balance(in points)
6.00	9.30 ± 7.30	38.60 ± 9.72
10.00	6.60 ± 4.54	43.47 ± 17.42
20.00	15.40 ± 15.02	46.10 ± 16.03
30.00	7.23 ± 5.12	36.07 ± 15.29
40.00	6.40 ± 4.43	22.53 ± 11.11
50.00	2.40 ± 1.69	9.33 ± 7.92
60.00	2.17 ± .79	5.97 ± 3.07
70.00	1.20 ± .61	1.90 ± 1.42

It is seen from the table that the balance increased from age 6 to 20 years and there after the value was gradual decreasing and after the age of 50 years the value became alarmingly low.

Table no. -2
Significance of inter group variation in Static Balance

Groups	Difference between Mean	Std. Error	Significant level
6 vs 10	-2.70	1.6	.111
10 vs 20	8.80	1.6	.000
20 vs 30	-8.16	1.6	.000
30 vs 40	-0.83	1.6	.622
40 vs 50	-4.00	1.6	.018
50 vs 60	-.23	1.6	.890
60 vs 70	-.96	1.6	.567

To test the inter group variation it was seen that the balance ability increased significantly between 10 to 20 years. It is also seen that the balance ability decreased significantly from 20 to 30 years

and 40 to 50 years. The increase in Static Balance from 6 to 10 years was not statistically significant similarly the decrease in balance ability from 30 to 40 years, 50 to 60 years and 60 to 70 years were not statistically significant. Similarly the inter group variation in dynamic balance has been tested and the results have been presented in table no -3

Table no. -3
Significance of inter group variation in Dynamic Balance

Groups	Difference between Mean	Std. Error	Significant level
6 vs 10	+4.86	3.19	.129
10 vs 20	+2.63	3.19	.411
20 vs 30	-10.03	3.19	.002
30 vs 40	-13.53	3.19	.000
40 vs 50	-13.20	3.19	.000
50 vs 60	-3.36	3,19	.293
60 vs 70	-4.06	3.19	.203

It is seen that the difference in dynamic balance ability between 20 to 30 years, 30 to 40 years and 40 to 50 years were decreased significantly. However the increase in balance ability was not statistically significant from age 6 to 10 years and 10 to 20 years. Similarly the decrease in balance ability from 50 to 60 years and 60 to 70 years were not statistically significant.

On the basis of the result the following conclusions were drawn

1. The static and dynamic both balances became highest in magnitude for the age group of 20 to 30 years.
2. The static and dynamic both balances increased rapidly from 10 to 20 years,
3. After 50 years of age the balance ability decreases rapidly.

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