ASSESSMENT OF HEALTH RELATED PHYSICAL FITNESS OF FEMALE STUDENTS SEEKING HIGHER EDUCATION

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ABSTRACT:-

Health is a state of complete physical, mental and social well being and not merely the absence of disease or any infirmity (WHO, 1948). To measure the health related physical fitness components of students at the college level, is the right step because they are said to be the citizens of tomorrow and builders of the nation. The purpose of the study was to assess the Health Related Physical Fitness of college female students of Nainital District. Two hundred female students of M.B. Government PG College, Haldwani were randomly selected as subjects for this study. Keeping in view the limitations and the delimitations of the study, the AAPHERD youth fitness test was used. The selected variables for the study were the 12mins R/W test for cardio-vascular endurance, Bent Knee Curl-Ups for abdominal muscular endurance, Sit and Reach test for trunk flexibility, 4X10mts Shuttle Run for agility, Flexed arm Hang for shoulder strength, and sum of biceps, Triceps, Subscapula and supra-iliac muscles for body composition. The mean, mode and standard deviation of the data of Health Related Fitness Test was calculated. ‘Z’ statistics was applied to convert all the variables into composite scores. Normal distribution of the population was plotted by using normal curve. The female students of Nainital District seeking higher education in different undergraduate courses possessed greater shoulder
strength but weaker cardio-respiratory endurance, weaker abdominal strength, lesser flexibility and lesser agility and most of the students were found to be underweight.

**Introduction:-**

One of the important, remarkable, beautiful, valuable and priceless things that God has created particularly on the earth is human being. To develop health and fitness and to lengthen life, the scientists and researchers have devoted their lives to invent medicine that protect life from various diseases; and health related equipment that measure the physical, physiological and psychological parameters of individuals. Their dedication, determination and will to discover new things in these fields are highly remarkable and admirable in the history of man civilization. According to Arabic proverb, “Health is a crown on the well person’s head but only the sick seem to see it”. Nieman and Facsm rightly said, “Health promotion is defined as the science and art of helping people change their lifestyle to move towards a state of optimal health”. This modes emphasis on the health promotion was inspired in the past by World Health Organization’s definition of Health: “Health is a physical, mental and social well being, not merely an absence of disease or infirmity”. These four aspects of health may be achieved through physical education because the main objective of physical education is to make an individual physically fit, mentally alert, emotionally balanced and socially adjusted within the society.

Hart said, “Physical fitness is the ability of a person’s body to meet the demands placed upon it by his work, by his way of life and by the necessity to meet emergency situation”. To measure the health related physical fitness components of students at the college level, is the right step because they are said to be the citizens of tomorrow & builders of the nation. They must be given right guidance and training to promote the health and fitness at the right time. A large number of national and international level players are trained at school, college and university level in most of the European countries. Moreover, potentialities and anthropometric characteristics of children at different stage of their growth and development, physical appearance and mental caliber help to guess or channelize in different games and sports.

**Purpose of the study:-**

The purpose of the study was to assess the health related physical fitness of college female students of Nainital District.
Selection of Subject:-

For the purpose of this study, 200 female students who were seeking higher education from M.B.G.P.G. College Haldwani (Uttarakhand) of B.A. and B.Com. courses were randomly selected as subjects. The age of the subjects ranged between 18-25 years.

Statistical Procedure:-

The mean, mode and standard deviation of the data of Health Related Fitness Test was calculated, which is the measure of Central Tendency. ‘Z’ statistics was applied to convert all the variables into composite scores. Normal distribution of the population was plotted by using normal curve.

Selection of Variables:-

The following variables were selected for the purpose of the study.
Test 1: 12 min. Run/ Walk test for cardio-vascular endurance.
Test 2: Bent-Knee Curl-up for abdominal muscular strength and endurance.
Test 3: Sit & Reach test for trunk flexibility.
Test 4: 4X10mts. Shuttle Run test for agility.
Test 5: Flexed arm hang for shoulder strength.
Test 6: Sum of Biceps, Triceps, Sub scapula & Supra-iliac muscles for body composition.

Statistical Procedure:-

The mean, mode and standard deviation of the data of Health Related Fitness Test was calculated, which is the measure of Central Tendency. ‘Z’ statistics was applied to convert all the variables into composite scores. Normal distribution of the population was plotted by using normal curve.
Results and Discussion:

The statistical analysis of data pertaining to Health Related Physical Fitness Test is given in Table 1.

Table – 1

<table>
<thead>
<tr>
<th>Test Items</th>
<th>Mean (M)</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 minute R/W Test</td>
<td>2142.58</td>
<td>212</td>
</tr>
<tr>
<td>Bent knee Curl Ups</td>
<td>18.54</td>
<td>2.87</td>
</tr>
<tr>
<td>Sit and Reach</td>
<td>10.31</td>
<td>2.29</td>
</tr>
<tr>
<td>Shuttle Run (4x10 mts).</td>
<td>10.01</td>
<td>0.96</td>
</tr>
<tr>
<td>Flexed Arm Hang</td>
<td>8.33</td>
<td>1.97</td>
</tr>
<tr>
<td>Body composition</td>
<td>18.97</td>
<td>7.05</td>
</tr>
</tbody>
</table>

N=200

The mean (M) and the Standard Deviation (S.D.) of 12 minute R/W test was 2142.58 and 212 respectively. By analyzing the data, it was found that 47.5% female students were above the mean score. It may therefore, be said that more than 50% female students possessed weaker cardio-vascular endurance. The mean of Cardio-Vascular Endurance was greater than mode i.e. 2075 which reveals that the distribution of the population on the normal curve is positively skewed.

The mean (M) and the Standard Deviation (S.D.) of Bent Knee Curl-ups was 18.54 and 2.87 respectively. By analyzing the data, it was found that only 45% female students were above the mean. It may therefore, be said that more than 50% female students possessed weaker abdominal strength. The mean of Bent Knee curl-ups was greater than mode i.e. 18 which reveals that the distribution of the population on the normal curve is positively skewed.

The mean (M) and the Standard Deviation (S.D.) of Sit and Reach test was 10.31 and 2.29 respectively. By analyzing the data, it was found that 44.5% female students were above the mean score. It may therefore, be said that more than 50% female students possessed lesser flexibility. The mean of Sit and Reach
was greater than mode i.e. 9 which reveals that the distribution of the population on the normal curve is positively skewed.

The mean (M) and the Standard Deviation (S.D.) of Shuttle Run (4x10 mts.) test was 10.01 and 0.96 respectively. By analyzing the data, it was found that 52.5% female students were above the mean score. It may therefore, be said that only 42.5% female students were found to possessed higher agility. The mean of Shuttle Run was greater than mode i.e. 9.56 which reveals that the distribution of the population on the normal curve is positively skewed.

The mean (M) and the Standard Deviation (S.D.) of Flexed Arm Hang test was 8.33 and 1.97 respectively. By analyzing the data, it was found that 55.5% female students were above the mean score. It may therefore, be said that more than 55.5% female students possessed greater shoulder strength. The mean of Flexed Arm Hang was lesser than mode i.e. 9 which reveals that the distribution of the population on the normal curve is negatively skewed.

The mean (M) and the Standard Deviation (S.D.) of Body Composition was 18.97 and 7.05 respectively. By analyzing the data, it was found that 57% female students were underweight. The mean of Body Composition was greater than mode i.e. 18.5 which reveals that the distribution of the population on the normal curve is positively skewed.

**Discussion of Findings:**

The findings reveals that the female students seeking higher education in undergraduate courses of Nainital District had weaker cardio-vascular efficiency, weaker abdominal strength, possessed lesser flexibility and agility and in the case of body composition, most of the students were underweight. But in the case of shoulder strength, most of the students had greater shoulder strength. This may be attributed to the fact that geographical condition & food habits were almost similar in different courses students of M.B. PG College, Haldwani, Uttarakhand.

Since sports has been one of the important aspects in the curriculum of the students of M.B. PG College, Haldwani, Uttarakhand, hence the students have been engaged in regular physical education and sports activities program in their curriculum. So they have more or less similar health related physical fitness. Also, the sample size and the number of courses chosen for the study might have not sufficient for the statistical significance of the health related physical fitness of B.Com and B.A. Course female students of M.B. PG college, Haldwani, Uttarakhand.
Conclusion:-

The female students of Nainital district undergoing B.A. and B.Com. courses possessed weaker abdominal strength, lesser flexibility, lesser agility and cardio-respiratory endurance and most of students were underweight. But in case of shoulder strength the female students possessed greater shoulder strength.

References:-

Chirstie, Anthony Brett, “Effects of a Physical Fitness concepts curriculum on Attitude and Fitness Levels of Ninth Grade Physical Education Students”, Dissertation Abstracts International 58(December 1997).


