Comparison of different Methods of Measuring Physical Flexibility in Male Students of Shiraz University

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ABSTRACT

The study compared various methods of measuring body flexibility in male students of Shiraz University, discussed and reviewed. Stretching exercises strengthen and stretch the muscles and tendons to prevent muscle shortening in a heavy exercise. The shortening and prevent muscle stiffness in elderly and inactivity. Prolonged sitting in some occupations or Continued driving could result in shortening and tightness of the muscles and the pressure on nerves and cause pain. In a survey conducted in the study, it was found that the flexible evaluation box of reliability and validity of the modified sit and brush more than sit and brush box is a traditional type. In studies conducted overseas research results also demonstrate that, Use the box sit Vbrs adjusted more advantages than sit and type box, with the conventional approach in terms of validity and reliability of the device sit Vbrs more accurate than the old type is important.

Although many experts have said that the exercise test a valid test for measuring flexibility sit and brush around the waist and hip, Jackson and Baker (1986) reported, scores of 13 to 15 year old girls sit and brush only moderate, with The flexibility of the hamstring muscles connection (r=0/64) and the flexibility of the vertebral column (r=0/07), the upper vertebral column (r=0/16) and lower vertebral column (r=0/28) has a weak relationship. They concluded that the sit and reach test, the test is not considered reliable for assessing young girls lower back flexibility. Studies that test scores of standard and modified sit-brush comparisons have shown are compared with those in the legs, arms are slightly longer (ie, the box is less distance between their fingers), the scores on this test are meaningful to those who had moderate box between their fingers, and while among these groups, sit and Braslah test scores were not significantly different (Hugo et al., 1990). However, Mynklr and Patterson (1994) reported on the evaluation of men and women hamstring flexibility test, sit and Brasalah only moderately correlated with standard parameters (the relationship between men and women, respectively, r=0/66 and r=0/75 respectively), but the flexibility around the waist, women and men, this test has poor relations with the gold standard (women and men, respectively r=0/25 and r=0/40). It appears that none of the test and the modified sit and brush standard tests to assess the flexibility of the lower back is not good.

INTRODUCTION

Flexible body is not only important for an athlete, but we all have a flexible body in order to benefit from its advantages. But perhaps ask yourself why we all need to pay attention to? The flexibility of both mental and physical aspects are important, the physical aspect to note several advantages of flexibility: flexibility, increasing blood flow to the active muscles, rapid release of energy to the muscles, ease the body, decrease in tension muscles, prevent and reduce injury potential while on the move and reduce menstrual discomfort before it becomes painful. So then what do you want to be a better athlete and a more capable or simply Get the flexibility you need more health. To increase the flexibility of the two categories will need time and practice [2]. This article will explain a few simple tips to increase our flexibility. Try always to lubricate your joints and muscles stretching why it is necessary to have a plan. But you never stretch without warming up the body do. The best time to stretch after warming up the body. One of the methods to increase flexibility, stretching,
repetition rate is 2 to 6 times. In each case the stretch for 10 to 30 seconds, or an average of 20 seconds anyway. Stretching with start pulling the muscle group, the muscles are more effective at work, pull. For static measurements and flexibility, there is no specific field tests. Although the findings in range of motion is important, according to body functions, measurement of joint stiffness and resistance to movement is probably more important and more meaningful. However, studies that have evaluated the flexibility to do too much. Kind of flexibility that is typically measured in fields, static flexibility, range of motion, which directly or indirectly measured by measuring the flexibility For a sample, several tests must be used, because the flexible nature quite be specific. Direct test of the joint's range of motion is measured in degrees, when compared with indirect tests that measure flexibility in linear units, usually are more useful [5].

The importance and urgency of the issue:

Flexibility is the most important criterion for physical fitness exercises, role in successful implementation of good athletic skills and prevent injuries. Therefore, the role and importance of this factor in exercise, healthy subjects and styles. accurate measurement is used to identify strengths and weaknesses, evaluating training programs, evaluate progress and measuring the flexibility of individual athletes a great deal of research has been done. Are certainly capable of smooth motion and organs throughout the full range of motion necessary for a healthy life. A person with arthritis who suffer from erosion of one or more joints. taken, Capacity movements easy and unrestricted loses his life for him and do daily exercise is a chore [6]. Also, a person who has limited range of motion, possibly with shortcomings in their functional capacity will be encountered. For example, a sprinter who has a hamstring muscles rigid, probably lost some of his speed that, because of his hamstring, which limited his ability to flex his hip, resulting in his stride length decreases. Lack of flexibility may lead to uncoordinated movements or muscle strain awfully that may put a person at risk. Flexibility can be increased through increased coordination and reaction time, enhance individual performance. Specialists and experts in sports open all agree that physical fitness, flexibility, good body and is essential for successful performance. However, this idea is primarily based on observations and scientific research. Most people believe that good flexibility is important to prevent damage to the muscle tendon. They usually before they are engaged in a strenuous physical activity, stretching into doing their warm-up program [7].

Goals hair:
The overall objectives:
Comparison of different methods of measuring physical flexibility in male students of Shiraz University

Detailed objectives:
Direct methods measure the flexibility of static
Indirect methods measure the flexibility of static
Procedure sit and brush with a traditional box
Procedure sit and brush with modified box
Goniometric test method (goniometer)

The results of the comparison of different methods of measuring physical flexibility.

MATERIALS AND METHODS

According to the defined goals, descriptive correlational study was conducted as a field study. Subjects consisted of 170 male students of Shiraz University of Physical Education in their current semester have been randomly selected to participate in the study.

Acceptance criteria and interested individuals as sample consisted of subjects volunteered to participate in the study. Participants completed a consent form and a demographic questionnaire. Also, we tried to test all students prior to participating in the warm-up stretching exercises under the supervision of the classroom teacher to do the same ratio. Comparison of three methods of measuring body flexibility using three sit by the old brush, and brush sit and modified goniometric method was performed.

Direct methods measure the flexibility of static:
Direct method for evaluating the static flexibility of the goniometer (Protractor), Flksvmtr (Flexible gauge), or Aynklyvmnter (Turnkey) used in these methods, the quantity of motion is measured in degrees. Given the gravity of this instrument and laboratory applications, these methods are less used by coaches and athletes [1].

Indirect methods measure the flexibility of static:
An indirect method of measuring static flexibility range of motion is achieved using linear measurements. For this purpose you can use a ruler, tape and boxes sit and reach flexibility instead of inches or centimeters to measure motion. The main weakness is that some flexibility in length or width of field tests of various body parts May adversely affect the performance of motion, for example, a person with respect to the trunk, short
legs, and sit for the tests at Brsnvy is superior. Some indirect tests for the assessment of movement and flexibility in your lower back is the vertebral column, including test and the modified sit and standard brushes (trunk flexion), shoulder lift test, test, test trunk and pulling the skin [2].

American Association of Sports Medicine (ACSM) in 1995, trunk flexion test to measure flexibility of lower back and hip recommended.

(Fingers can be put on both hands and then push forward, a moment they kept the same). Knees should be bent and students should refrain from bending over with one hand. The maximum distance (in cm) at which fingers are touching the box, the record is considered as subjects [3].

Procedure sit and brush with a traditional box:

Box placed against a wall, the criteria specified in the above box, zero standard should be close to the subject.

A. Students sitting on the floor, legs stretched out in front of the box is flat.

B. The subjects feet should be kept straight, put one hand on top of the other, and bend forward from the waist on the flat box [4].

Test to see if the number shown at the fingertips of the individual being tested, the specified number is shown on the box is a note. It is noteworthy that in the case of right foot, left foot and leg pair of measurements have been performed. Figure (1)

Fig. 1: Performing traditional sit and brush box.

Procedure sit and brush with modified box:

1. The sample is placed on a flat wall, so that the back of the head, back and seat is in full contact with the wall.

2. The measurement box is placed in front of the subjects and the subjects put the soles of your feet in place, knees are in a straight position.

3. Subjects and put your hands on each other without separating the head, back, seat, hands straight forward moves.

4. scaled ruler to move the box to the fingertips of subjects and the number is set to zero [5].

graded notes are attached to the box. It is noteworthy that in the case of right foot, left foot and leg pair of measurements have been performed. Figure (2)

Fig. 2: Adjusted performing sit and brush box

Procedure goniometric (protractor):

1. First, the subjects in the supine position on the bed measurement is critical.

2. A person being tested to keep the legs without moving his hands at his side and sat on the bottom of the knee and hip prevent the person from getting the foot of the people.

3. In this phase of the test goniometer placed on the hip, so when one arm of the goniometer in the middle of the thigh, and the other arm to the outside of the trunk should be applied.

4. While holding the auxiliary raters opposite knee in smooth, goniometer arm along the trunk keeps moving

5. While lifting the foot and ankle by the subjects of the experiment, subjects moved the lever attached to the outside of the foot.
6. Bend the legs moving slowly continued until there is no possibility to move or feel brief pain reported by the subjects [6].

At the end of range of motion in degrees of what is called the oblique meter. Figure (3)

Fig. 3: The test log and brush with a goniometer.

The descriptive statistics for classification, data set, to determine the parameters of central tendency, measures of dispersion, drawing tables and graphs were used. To test the hypothesis of Pbrsvn way ANOVA and Pearson correlation coefficient is significant at the level of 0/05 and linear regression were used. For statistical calculations and drawing graphs spss software was used [7], [8].

Results:
Comparison of results of different methods of measuring physical flexibility:

170 male students of Shiraz University of Physical Education in their current semester have been randomly selected to participate in the study were given the flexibility test by the three. Descriptive characteristics of the subjects are shown in Table 1.

Table 1: Descriptive characteristics of subjects

<table>
<thead>
<tr>
<th>The measured variable</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>20.6353</td>
<td>1.16504</td>
</tr>
<tr>
<td>Height (cm)</td>
<td>175.8176</td>
<td>5.93264</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>66.8824</td>
<td>5.59990</td>
</tr>
</tbody>
</table>

The mean and standard deviation of three medium sit flexibility test and the old brush, and brush sit and modified goniometric method is presented in Table 2 [9].

Table 2: Descriptive data of the measured variables.

<table>
<thead>
<tr>
<th>The measured variable</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional box &quot;right foot&quot; (cm)</td>
<td>38.9941</td>
<td>5.39364</td>
</tr>
<tr>
<td>Traditional box &quot;left foot&quot; (cm)</td>
<td>39.0176</td>
<td>5.15955</td>
</tr>
<tr>
<td>Traditional box &quot;set foot&quot; (cm)</td>
<td>39.0588</td>
<td>5.17814</td>
</tr>
<tr>
<td>Protractor &quot;right foot&quot; (o)</td>
<td>89.7765</td>
<td>6.43102</td>
</tr>
<tr>
<td>Protractor &quot;left foot&quot; (o)</td>
<td>89.7471</td>
<td>6.44601</td>
</tr>
<tr>
<td>Adjusted Box &quot;right foot&quot; (cm)</td>
<td>37.3471</td>
<td>5.20271</td>
</tr>
<tr>
<td>Adjusted Box &quot;left foot&quot; (cm)</td>
<td>37.3765</td>
<td>5.23863</td>
</tr>
<tr>
<td>Adjusted Box &quot;&quot; leg pairs &quot;(cm)</td>
<td>37.3765</td>
<td>5.16696</td>
</tr>
</tbody>
</table>

The results showed that the measurement of students’ flexibility, adjusting brush box and sit and traditional brushes significant correlation was found.

As Table 3 shows, the flexibility of students with boxes sit and brush adjustments and sit and brush the conventional correlation coefficient (r=0/974) is calculated as the difference in level (p=0/01) is significant [10].

Students sit in a box and measuring the flexibility of a traditional brush and goniometric significant correlation was found.

As Table 3 shows, the flexibility of students with boxes sit and brush conventional goniometer in the left leg correlation coefficient (r=0/924) is calculated as the difference in level (p=0/01) is a significant correlation between the right foot (r=0/925) is calculated as the difference in level (p=0/01) is significant.

Students measure the flexibility to sit and brush box and goniometric adjustment, there was no significant correlation.

As Table 3 shows, the flexibility of students with boxes sit and brush adjusted goniometer in the left leg correlation coefficient (r=0/915) is calculated as the difference in level (p=0/01) is a significant correlation between the right foot (r=0/923) is calculated as the difference in level (p=0/01) is significant [11], [12].

Table 3: Comparison of different tests to measure the correlation between physical flexibility.
They have reported that, as a test case Brsbsb sit and men hamstring flexibility, reliability has been very good with the gold standard (r=0/89), but a moderate correlation with lower back flexibility (r=0/59) is. The women sit and Brsbsb test as a test of hamstring flexibility, reliability and standard test medium (r=0/70), but the relationship of flexibility around the waist (r=0/12) is weak.

For this test, a box with a height of 30 cm or box used to sit and brush. The subject sits on the ground as the hips, shoulders and head are in contact with the wall, knees opens (but not locked) chest and legs to the box window. One meter (metal / beds) are placed on the boxes to zero as it is to the subject. While the head and shoulders in contact with the wall, on the other hand is one of the subjects while, and then bring them to the front of the box is placed on the ruler so that the zero point of contact with the client's fingertips. This method, relative to the zero point of each sample is determined. As you hold a ruler firmly in place, subjects himself slowly forward (ruler) and fingers bend towards the other end of the ruler. Record (in cm) is the maximum distance that each client arrived toes. The table below shows the percentage depends on age and gender norms in the test log and show Brsaslah. If the record is less than 50% of the subjects, following his flexibility is moderate.

Conclusions and recommendations:

The study compared various methods of measuring body flexibility in male students of Shiraz University, was evaluated. The purpose of this study was to evaluate the reliability of three methods used to measure flexibility in the students of Islamic Azad University of Shiraz. The present study is a cross-correlation method. This test kit measures Vbrs traditional sit, sit and brush box modified and special goniometer to measure joint angles, respectively. The results show that the measurement of students' flexibility with box and sit and sit and brush modified traditional brushes significant correlation was found. (p=0/01). Flexibility also measured the students sit in a box and there was a significant correlation goniometric traditional brushes. (p=0/01). and measuring the flexibility of students to sit and brush box and goniometric adjustment, there was no significant correlation. (p=0/01). results show that the flexibility of the boxes sit-brush assessment of the validity of the modified sit and brush box than the traditional type.

REFERENCES