Ways of assessing body composition - lab report example

Health & Medicine

Ways of Assessing Body Composition

The paper “ Ways of Assessing Body Composition" is a wonderful example of a lab report on health sciences & medicine. There are various ways of assessing body composition: the circumference measurement method, body plethysmography, skinfold measurements, and hydrostatic underwater weighing among others. In this experiment, we will use skinfold measurements as a method to determine body fat content. The experiment will be done on a young lady of 23 years of age. The purpose of the experiment will be to use skinfold measurements to measure the body fat content of a 23-year-old lady. This would be very significant to this lady as she will have to know her body fat content that will be necessary to categorize herself as either healthy, overweight or obese. The results of the experiment can, therefore, be used by someone in defining healthy living practices in a person and the correct physical exercise requirement. It is also used by the doctors to determine whether someone is at risk of out of risk of being attacked by certain cardiac diseases such as heart attack, hypertension, and high blood pressure.

Method The method used in this experiment is that of the skinfold thickness measurement to estimate body fat. Seven different standard anatomical sites around the body were used. The right side is measured only for consistency. The skin was pinched at the appropriate sites in order to raise its double layer and the underlying adipose tissue. This was carefully done not to touch the muscles. The equipment used was the calipers and tape measure. The skinfold calipers were then applied at 1 cm below and at right angles to the pinch. A reading was taken in millimeters (mm) two seconds

later. The process was repeated to get a second reading that was used with the first reading to find the mean reading. The process was then repeated for all the seven skinfold sites, and the mean reading is taken for each of them. The skinfold sites included the triceps, biceps, thigh calf, subscale, supraspinal, and the abdominal (Tony, 2013).

Results

Due to the errors that are always involved, it is not appropriate or advisable to convert the skinfold readings to percentage body fat. The sum of several sites was used to compare and monitor body fat measures. The results were then recorded as in the table below for use to calculate the percentage body fat measure.

Skinfold site

1st Reading (mm)

2nd Reading (mm)

Average Reading (mm)

Thigh

14. 8

15. 1

14. 95

Biceps

17. 9

18. 3

18. 1

Triceps

15. 6

16. 8

16. 2

Calf

13

13. 4

13. 2

Abdominal

14

14. 2

14. 1

Subscap

12

13

12. 5

Supraspinale

15

14

14. 5

The above data represents the average readings that were found from different skinfold sites of the body. The data shows that the readings from the biceps are higher than the reading from other skinfold sites that were measured. The following Jackson Pollock formula was then used to calculate

the body fat percentage using the readings:

7-site skinfold equation:

%body fat = (0. 41563 x sum of skinfolds) – (0. 00112 x square of the sum of skinfolds) + (0. 03661 x age) + 4. 03653= (0. 41563 x 103. 55) – (0. 00112 x 10722. 6025) + (0. 03661 x 23) + 4. 03653= 43. 0384865 – 12. 0093148 + 0. 84203+ 4. 03653= 43. 0384865 – 16. 8878748= 26. 15%

According to the categories established by the American council on exercise, the following guideline is used for both men and women to determine their body fat percentage.

Women

Men

Essential percentage of fat

10-13%

2-5%

Typical athlete

14-20%

6-13%

Physically fit

21-24%

14-17%

Acceptable

25-31%

18-24%

Obese

32% and more

25% and more

The lady’s body fat percentage is 26. 15%

It only means that the lady is within the acceptable body fat percentage.

Discussion

The lady whose body fat percentage was measured neither obese nor underweight. She, therefore, falls under the acceptable body fat percentage range but could be overweight. To be overweight means that one is not obese but their body weight is slightly beyond being physically fit. They, however, are not far from being obese, therefore, should be careful as they would get to be obese soon with an increase of a little weight (Natalie, 2009).

Looking from the table above, the lady falls within the acceptable body fat percentage range which is 25-31%. The lady's body fat percentage is 26. 15%. Therefore, she is within an acceptable range. This means that the lady has a healthy body fat percentage, but she is soon getting too overweight. She, therefore, needs to watch her weight and get more learner to avoid her getting closer to being obese. One reason for this might be because the lady is taking foodstuff with a lot of calories but is trying to involve herself with a lot of exercises to reduce the weight. She has tried, though, she still needs to do even more. One way she could maintain her body fat percentage or even bring it lower is through enough exercise and good eating practices where healthy foods should be a priority.

Conclusion

We used skinfold measurements in this lab to measure body fat percentage. The results indicate that the lady who is our subject falls within the acceptable body fat percentage range. Based on the results after the calculation of the body fat percentage, the lady can maintain her weight by eating healthy foods and having enough exercise. This is because; her results may shoot anytime if she doesn't keep it on watch and she might reach the overweight mark and obese soon afterward. It is very important to keep our body fat percentage within the required rates so that we can avoid some unnecessary heart diseases.