

Physical Activity Plays an Important Role in Body Weight Management

Dr. Ashok Kumar¹, Prasad Salian²

¹Assistant Professor of Physical education, College of Horticulture, Bengaluru, Karnataka, India.

Email: samrat5akki@gmail.com

²Assistant Director of Physical Education, Engineering College, Kushalnagar, Kodagu, India.

Email: saliansports@gmail.com

DOI: 10.29322/IJSRP.10.10.2020.p10652

<http://dx.doi.org/10.29322/IJSRP.10.10.2020.p10652>

Abstract: Emerging literature highlights the problems in the health sector is excess weight. The excess weight is caused due to accumulation of fat under the skin and around our organs. Fat first get deposited under the skin of belly. Belly fat is directly proportional to the life style diseases. More the belly fat more lifestyle diseases a person is likely to have. Apart from the agony and pain of diseases overweight is a major blow to the self esteem and self image of people worldwide. Many such people fall prey to frauds that mislead them with their tall claim advertisements. The result will be loss of money and even the negative effects of medicines. Overweight could be practically handled with energy balance, understanding calories, metabolism and nutrition. Here the scholar is interested to find out a practical and scientific approach to overcome this menace.

Keywords: Physical Activity, Important Role, Body Weight, Management, Overweight.

1. Introduction

Regular, vigorous exercise has been necessary for survival throughout evolution. It is only during the past few decades that it has become possible for people to go through life with minimal physical activity. Many people are hitting gymnasiums and health club to reduce weight and few are going to these places to gain weight. Losing or gaining weight will be a herculean task if we don't understand the basics related to weight gain or loss. For our body to function we require energy.

We get energy through the food which we eat. The unit of energy is calorie. Our body requires calories (energy) for our day to day work. The calories we get from food is converted into physical energy or stored as fat in our body. If the calorie we receive through food is excess than the calorie we require then this excess calorie is stored as fat around our organs and under our skin. As a result our body expands and we gain weight. When the excess calories become 7700 we store 1 kg of body fat. If we take fewer calories than the required amount of by our body the deficit in calorie is made up by burning the already deposited fat in our body. We call this process ketosis. As a result our body shrinks and we lose weight. So managing body weight is all about energy input and energy output. If energy input and energy output is same then we call a state called energy balance and in this state our body weight remains constant.

2. Role of Nutrition in Weight Management

Nutrition plays a very vital role in managing weight. Without knowing the calorie value of different food we eat it's impossible to attain weight loss or gain. Actually nutrition should be the fundamental of any weight loss or gain program. We need to take balanced diet for proper growth and maintenance of our body. Nutrients such as carbohydrate, protein, fat, vitamins and minerals are essential for our body. Minerals and vitamins are required in smaller quantities and are known as protective nutrients as these nutrients help us to boost our immunity and protect us from diseases. The main energy sources or nutrients to our body are carbohydrate, protein and fat. Table 1 shows the calorie content of 1 gram of these nutrients.

TABLE 1
Caloric Value of Energy Giving Nutrients

Sl. NO	Nutrients	Calorie
1	1 gm Protein	4 Calories

2	1 gm Carbohydrate	4 Calories
3	1 gm Fat	9 Calories

Calorie Content of Food items on a Daily Basis.

- Vegetables – All vegetables (except potato) weighing 100 gm approximately gives 20 calories. 100 gm potato gives 100 calories.
- Fruits – All fruits (except banana, mango and jackfruit) weighing 100 gm app. gives 50 calories. 100 gm banana, mango and jackfruit yields 100 calories.
- Grains – 25 grams gives 100 calories, example a single chapatti weighs 35 gm out of which 10 gm will be water and remaining 25 gm is carbohydrate so $25 \times 4 = 100$ cal. 100 gm boiled rice is equals to 25 gm raw rice and hence gives 100 cal.
- Fried, sweets and bakery items – All 100 gm will give you approx 500 to 600 calories.
- Oil or pure fat - All oils are pure fat and 1 ml yields 9 calories so 100 ml gives you 900 calories.

The above table and statements makes us clear that the intake of raw vegetables and fruits should be more to get rid of excess fat. Grains also we should include but in moderate proportion. Oil and bakery should be out from everyone’s list if they wish to lose weight. While making food choices make such a menu which appeals to your taste. Choosing food merely on the basis of calories will not be a practical and sustainable idea. Sooner or later one will drop out from these diet plans. Our diet should be such that it fulfills our desire, low on calories, contains all the nutrients, is accessible and keeps up the quality of our life.

3. Role of Physical Activity in Weight Management

Physical activity or exercise also plays a vital role in weight reduction. Besides exercise is a must to all for many other beneficial reasons. Physical activity in the form of exercise and sports are many and one should choose an activity based on his /her interest, accessibility, age, gender, and fitness level. Doing physical activity in group works out for many of the people. Non adherence to physical activity is a grave matter of concern in this area. Lot of intrinsic motivation is required to make physical activity a part and parcel of one’s life. Some of the common physical activities and the amount of calories it burns is given in table -2.

**TABLE 2
PHYSICAL ACTIVITIES – CALORIE EXPENDITURE**

S. No.	Activity	Duration	Intensity	Calories Burned
1	Aerobics	1 hour	High impact	500
2	Body weight training	1 hour	Vigorous	550
3	Climbing stairs	1 hour	Fast	600
4	Cycling	1 hour	Moderate	500
5	Gardening	1 hour	Moderate	250
6	Jogging	1 hour	10 min/km	400
7	Standing and moping	1 hour	Moderate	250
8	Swimming	1 hour	Moderate	400
9	Walking	1 hour	10 min/km	300
10	Washing clothes with hand	1 hour	Moderate	250
11	Weight lifting	1 hour	Vigorous	350

4. Calorie Intake

How much food should we eat? What is the normal amount of calories required? These are some natural questions of enquiring minds. Food or calories required in a day is equivalent to the energy required in a day. We need energy for doing various types of work. The energy requirement is made up of two components.

The basal energy required for such vital functions as respiration, circulation and digestion etc. this energy is called BMR or basal metabolic rate. The basal metabolic rate is the energy used by an individual during physical, digestive and emotional rest.

The energy required for the actual physical activities of the individual. This component varies with different types of occupations. The basal requirements of calories can be calculated in relation to one's body weight. It has been found that a normal young adult expends basal energy at the rate of about 1 calorie every hour for each kilogram of body weight. If your weight is 70 kg then you require $1 \times 24 \times 70 = 1680$ calories. Thus 1680 calories are your basal requirements of energy. If you do activity you will need another additional supply of energy. The additional calories required for various physical activities are given below.

TABLE – 3
Energy Demand

Activity	Additional Calories/hour in addition to BMR Calories required
Light Work	70
Moderately Heavy Work	100
Heavy Work	200
Very Heavy Work	300

Minimum calories required for BMR and work in one day for a 70 kg person is -

1. Sleeping 8 hours + BMR (Whole day)=1680 calories
2. Light work for about 8 hours (college and at home) $8 \times 70 = 560$
3. Moderately heavy work for about 8 hours $8 \times 100 = 800$

Total = 3040 calories.

It is clear from the above example that sedentary work requires much less calories than for moderately heavy work.

If this person (70 kg) net energy (Energy consumed – Energy expended) is more than 3040 calories excess calories will be deposited as fat and his weight will increase. If his net energy is less than 3040 calories he will burn more fat and weight loss will happen.

5. Tips for Reducing Calories from Eating

- Keeping Hydrated: Around 2 to 2.5 liters of water must be consumed in a day. If the person is involving in exercise he should compensate water loss through sweat above this level.
- Eating Raw Vegetables - Vegetables like cabbage, carrot, cucumber, and tomatoes could be taken raw. Nutrients loss can be avoided if we eat raw vegetables. It also gives a fullness feeling.
- Eat more fruits – fruits are dense in nutrients and low in calorie. It will help to subside hunger drive.
- Eat Complex Carbohydrate - Eat chapatti or brown rice instead of white rice.
- Proper Chewing - Chew all food for 32 times as it will extract the greatest possible amount of nutrients from your food and also decrease hunger drive as you feel fuller.
- Avoid Fried Items – All bakery and fried items are high in calories and trans fat. Try to avoid it as far as possible.
- Track your Calorie intake through Mobile applications – it will help to know the quantity of food and its caloric value.
- Never combine screen time with eating

6. Yoga for weight loss

Yoga improves mindfulness of your body and increases your ability to control your diet.

- It reduces stress, which controls poor eating habits.
- Improved self discipline which adhere yourself to physical activity and balanced diet.
- It makes the body especially back healthy promoting additional exercise.

7. Conclusion

This publication is licensed under Creative Commons Attribution CC BY.

<http://dx.doi.org/10.29322/IJSRP.10.10.2020.p10652>

The vast majority of scientific evidence supports a important role of physical activity plays an important role in body weight management. Substantial weight loss could be achieved by the modification of our diet and choosing the right physical activity and adhering to both. Diet helps more in reducing weight but physical activity ensures that the lost weight is not regained. Weight loss with diet alone may leads to infirmity especially in older people, Physical activity in the form of aerobics and resistance training is the apt addition to diet.

References:

- 1.ACSM fitness book (1996). Leisure Press Campaign, Illinois, Leisure Press, Canada.
- 2.Birch, Mac Laren, George (2005). Sports and exercise physiology-instant notes, UK:BIOS Scientific Publishers.
- 3.Cooper, Kenneth H (1968) Aerobics, Bantam Publishing, USA.
- 4.Corbin, Charles B et al. (2004). Concepts of fitness and wellness, Boston; McGraw Hill.
- 5.Fahey, Insel, Roth, (2004). Fit and well, 6th Ed. Boston; McGraw Hill Co.
- 6.Greenberg, Dintiman, Oakes. (2004). Physical fitness and wellness, 3rd Ed. IL ; Human Kinetics.
- 7.Hoeger, Werner, W. K. (1989). Lifetime Physical Fitness and Wellness. 2nd Edition, Morton Publishing Company Limited, New Delhi.
- 8.Puri, K. Chandra (2006). Health and Physical Education, New Delhi ; Surjeet Publications.
- 9.Uppal, A. K. (2001). Principles of sports training, New Delhi ; Friends Publication.