

A review on prevalence of obesity and risk of morbidity in public health

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ABSTRACT

Obesity is one of the most significant causes of morbidity and mortality in worldwide, Overweight and fatness are considered known risk factors for non-communicable diseases among population globally because it affects dysfunction of many systems including metabolic, hormonal, hemodynamic, biochemical, molecular physiology. Obesity substantially increases the risk of several major cancers in women, especially postmenopausal breast cancer and endometrial cancer. Overweight and obesity are associated with elevated mortality from all causes in both men and women, and the risk of death rises with increasing weight. Decrease the two problems of obesity and diseases calls for not only changes in diet and lifestyle at individual levels but also changes in policy, physical and social environment. In this review represents the relation between physical activities and weight control among the men and women through nutritional food and this study also discusses the factors contributing to the change in obesity rates in order to promote a quality healthy life.

Keywords: Obesity, mortality and morbidity, healthy life.

1. INTRODUCTION

Worldwide obesity has nearly tripled since 1975. In 2016, more than 1.9 billion adults, 18 years and older, were overweight. Of these over 650 million were obese 39% of adults aged 18 years and over were overweight in 2016, and 13% were obese. Most of the world's population live in countries where overweight and obesity kills more people than underweight. 41 million children under the age of 5 were overweight or obese in 2016. Over 340 million children and adolescents aged 5-19 were overweight or obese in 2016. Obesity is preventable. It is a medical condition in which excess body fat has accumulated to the extent that it may have a negative effect on health. People are generally considered obese when their body mass index (BMI), a measurement obtained by dividing a person's weight by the square of the person's height, with the range 25-30 kg/m². For adults, WHO defines overweight and obesity as follows: overweight is a BMI greater than or equal to 25; and obesity is a BMI greater than or equal to 30. BMI provides the most useful population-level

measure of overweight and obesity as it is the same for both sexes and for all ages of adults. However, it should be considered a rough guide because it may not correspond to the same degree of fatness in different individuals. For children, age needs to be considered when defining overweight and obesity [1].

Obesity means very fat and overweight means either less fat. Whereas overweight implied to excess body weight compared to set standards, obesity refers specifically to having an abnormally high proportion of fat. To health professionals and researchers, however, both these terms have definitions that specify the degree of excess fat [2]. Body fat exists in storage and essential forms. Essential fat found in all organs involving the central nervous system or intestines that is necessary for body normal functions. Storage fat as an efficient energy fuel is accumulated in the adipose tissue, specially under the skin and that is affected by diet or exercise, whereas the amount of essential fat remains constant [3].

2. MATERIALS AND METHODS

2.1 Measurement of obesity^[4]

- 1) Body mass index (BMI)
- 2) Waist circumference
- 3) Waist-to-hip ratio
- 4) Skinfold thickness

The prevalence of overweight and obesity among children and adolescents aged 5-19 has risen dramatically from just 4% in 1975 to just over 18% in 2016. The rise has occurred similarly among both boys and girls: in 2016 18% of girls and 19% of boys were overweight. While just less than 1% of children and adolescents aged 5-19 were obese in 1975, more 124 million children and adolescents (6% of girls and 8% of boys) were obese in 2016. Overweight and obesity are linked to more deaths worldwide than underweight^[5]

Regular physical activity is key to preventing and treating non communicable diseases (NCDs) such as heart disease, stroke, diabetes and breast and colon cancer. NCDs are responsible for 71% of all deaths globally, including for the deaths of 15 million people per year aged 30 to 70. WHO recommends a set of 20 policy areas, which combined, aim to create more active societies through improving the environments and opportunities for people of all ages and abilities to do more walking, cycling, sport, active recreation, dance and play.

2.2. Ultimate causes of obesity

The major cause of obesity and overweight is an energy imbalance between calories consumed and calories expended. Globally, there has been^[6]

- an increased intake of energy-dense foods that are high in fat; and
- an increase in physical inactivity due to the increasingly sedentary nature of many forms of work, changing modes of transportation, and increasing urbanization.

Changes in dietary and physical activity patterns are often the result of environmental and societal changes associated with development and lack of supportive policies in sectors such as health, agriculture, transport, urban planning, environment, food processing, distribution, marketing, and education.

2.3 Association of Obesity and Diseases

There is increased association of obesity and diseases. These include Diabetes, Hypertension, Osteoarthritis, Pancreatitis, Cholelithiasis and dyslipidemia which are discussed below^[7]

Type1 Diabetes-There is overall evidence for an association between childhood obesity, higher BMI, increased risk of subsequent type1 diabetes.

Type2 diabetes- insulin resistance and hyperinsulinaemia. Weight loss associated with improvement. Excess insulin retain Na, expansion of blood volume, production of excess nor epinephrine ,smooth muscle proliferation - hallmark of Hypertension.

Osteoarthritis- marked obesity predisposes to degenerative joint disease. Cumulative effect of wear and tear on joint due to obesity, greater the burden of fat greater the trauma to joints with time.

Gall stone- 6 times more common in obese than non-obese. Increased total cholesterol, increased biliary excretion and cholesterol in bile, cholesterol rich gall stones¹³.

Nonalcoholic steatohepatitis-(Inflammation of the liver with concurrent fat accumulation)adolescents and adult who are obese and have type2 diabetes. Fatty change accompanied by inflammation lead to fibrosis.

Dyslipidemia- increased risk of CAD due to hyper TG, Low HDL Syndrome X-distinctive metabolic syndrome-abdominal obesity, insulin resistance, hyper TG, low HDL, HTN, increased risk of CAD.

Thrombosis- increases the risk of ischemic stroke. Abdominal obesity is associated with increased risk of thrombosis.

Cancer- increased BMI and mortality in cancer esophagus, colon, rectum, liver.

2.4. Weight Loss Programs

The goal of obesity treatment is to reach and stay at a healthy weight. You may need to work with a team of health professionals including a dietitian, behavior counselor or an obesity specialist to help you understand and make changes in your eating and activity habits. All weight loss programs require changes in your eating habits and increased physical activity. The treatment methods that are right for you depend on your level of obesity, your overall health and your willingness to participate in your weight-loss plan^[8].

Other management tools include:

- Dietary changes
- Exercise and activity
- Behavior change
- Prescription weight-loss medications
- Yoga and Asanas

2.5. Making healthier choices of food

To make your overall diet healthier, eat more plant-based foods, such as fruits, vegetables and whole-grain carbohydrates. Also emphasize lean sources of protein such as beans, lentils and soy and lean meats. If you like fish, try to include fish twice a week. Limit salt and added sugar. Stick with low-fat dairy products. Eat small amounts of fats, and make sure they come from heart-healthy sources, such as olive, canola and nut oils .

2.6. Restricting certain foods:

Certain diets limit the amount of a particular food group, such as high-carbohydrate or full-fat foods. Ask your doctor which diet plans have been found effective and which might be helpful for you. Drinking sugar-sweetened beverages is a sure way to consume more calories than you intended, and limiting these drinks or eliminating them altogether is a good place to start cutting calories.

2.7 Exercise and activity

Increased physical activity or exercise is an essential part of obesity treatment. Most people who are able to maintain their weight loss for more than a year get regular exercise, even simply walking.

2.8. Behavior changes

A behavior modification program can help you make lifestyle changes and lose weight and keep it off. Steps to take include examining your current habits to find out what factors, stresses or situations may have contributed to your obesity. Everyone is different and has different obstacles to managing weight, such as a lack of time to exercise or late-night eating. Tailor your behavior changes to address your individual concerns.

2.8. Yoga therapy

The aim of yoga is not just reduction of weight; this is bound to happen as an outcome of our increased self-awareness. However, we must be sincere and honest with ourselves and allow our awareness to develop in a positive and constructive manner. This means that we should not use yoga to feel guilty about ourselves, or to punish our bodies or to suppress our minds. Yoga should be used as a form of self-expression, helping our body/mind complex flow freely.

The best asanas for obesity are the Pawanamuktasana series for the digestive system which help to remove extra fat from the abdomen, hips and thighs, and activate the energy in the lower pranic centers. These include: utthanpadasana (raised leg position), chakrapadasana (leg rotation), Mayurasana,

Bhujangasana (striking cobra pose) and Sarvangasana [9]. These practices are very good for strengthening the abdominal muscles which are usually very flaccid in the obese patient. It also helps burn the extra fat tissue of the omentum which is a fold of peritoneum, in the abdomen, very rich in fat tissue.

3. DISCUSSION

Obesity increases the likelihood of various diseases, particularly heart disease, type 2 diabetes, breathing difficulties during sleep, certain types of cancer, and osteoarthritis. Obesity is most commonly caused by a combination of excessive dietary calories, lack of physical activity, and genetic susceptibility, although a few cases are caused primarily by genes, endocrine disorders, medications or psychiatric illness[10]. Body Mass Index or **BMI** is a measurement that helps determine how much excess weight you are carrying. BMI is calculated from a person's height and weight. While it can be a useful way to quickly detect excess weight, it is not a specific measure of excess body fat. For example, a bodybuilder may have a BMI that indicates he or she may be overweight, yet his or her excess weight is usually due to bone and muscle. So in addition to looking at your BMI, we look at other measures like waist circumference, especially if weight may be causing health issues like high blood pressure, sleep apnea, or diabetes. All of this information helps us determine the extent to which excess weight may be harmful to your health.

4. CONCLUSION

The prevalence of obesity increased rapidly in last decades worldwide. For this modification, many variables such as change in lifestyle induced westernize, industrialization, relief, diets and decrease of physical activity are considerable. It can be concluded from the above reviewed literatures that obesity is an important public health issue in both developing and developed countries. It increases morbidity and mortality in different disease association both among child and adults and in both sexes. However strict diet control in relation to height and weight of the individual age, Regular yoga practice and physical activities, less intake of chunk and high calorie food and increased consumption of vegetables, antioxidants, polyunsaturated fat will decrease the incidence of obesity. A communal movement involving all layers of people like People representatives, government and private health organizations, mass media could play a vital role to control this threat. Reducing morbidity should be a primary goal of Obesity therapy.

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