

(REVIEW ARTICLE)



Nutrition and obesity: review

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Abstract

Several dietary patterns are involved which includes both food-based & macronutrient which leads to weight loss. An important key that is used to minimize the chances of weight gain is by applying dietary patterns in which energy intake is not more by adjusting the composition of other nutrients. Different factors are involved which show their association with obesity. By coping with these factors, the risk of obesity will decrease.

Keywords: Obesity; Causes; Dietary factors; The role of nutrition; Another component; Dietary patterns; Dietary strategies

1 Introduction

Obesity is a global epidemic which is irrefutable & a serious health issue due to its several comorbidities including cancer, type II diabetes & cardiovascular illness. From the previous decades, it was observed from the world report that the spread of obesity has severely escalated to around 57% [1,2]. The examination survey of nutrition & national health reported that in the United States 36% of adults are suffering from obesity in which their body mass index is greater than 30kg/m² & 16% cases are those in which a body mass index is more than 35kg/m². From the previous record, it was observed that 86% cases of adults in the United States will be overweight with a body mass index is more than 25kg/m² [3,4,5]. The role of adipose tissues is multi-functional because adipose tissue not only stores energy but also plays role in immune & endocrine functions [6,7,8]. In the case of obesity, the level of inflammatory molecules like tumor necrosis factors, reactive C protein & IL-6 shows the state of low-grade systemic inflammation [9,10,11]. Because of this inflammation, the chances of chronic illness cardiovascular illness & diabetes type ii will increase [12]. To minimize the chances of obesity it was important to understand the factors which increase the risk of obesity. These factors are nutrition, physical activity, stress, and nutrition which show their association with obesity [13,14,15]. The role of nutrition is significant in the case of obesity because chronic inflammation shows its correlation with nutritional factors including fats, proteins, and carbohydrates [16,17,18]. So, in this, we studied different nutritional factors and their association with obesity.

1.1 Causes of obesity

There are many factors that are involved in obesity. These factors include family history, environmental factors, high intake of calories, lifestyle, diet, genes, physical inactivity, socioeconomic background, exposure to different chemicals, pregnancy and menopause, hormones, aging, etc.

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2 Dietary pattern for weight loss & their current evidence

2.1 Weight loss by using macronutrient patterns:

Changing the macronutrient consumed proportion leads to weight loss [19]. The role of protein, carbohydrates & fats is an important factor in weight loss [20,21,22,23]. According to the American Association, it was reported that after the use of several macronutrients they all are helpful in weight loss [24,25,26]. So, it was proved from the overweight prevention strategies by using novel dietary components that weight loss does not affect by the reduction in dietary components. If we reduce the composition of dietary components by using low-energy components for example vegetable diet as compared to a high protein-rich diet then the chances of weight gain will reduce [27,28,29,30]. So, the weight loss goal is achieved after using the low-energy diet.

2.2 Weight loss using food-based patterns

The previous study resulted that nowadays researcher focus on healthy diet patterns. Eat healthily rather than eating too much food. In 2015 advisory committee on a diet recommended that weight loss be achieved after using a healthy diet pattern. This pattern includes US-style healthy patterns of eating which are represented by the dietary approach to minimize the risk of complications. For this, they suggest using a low-fat diet minimum of less than 25% to attain a healthy lifestyle by reducing the chance of obesity. So, by taking a low-energy diet there will be fewer chances of weight gain [31,32,33,34]. The Mediterranean diet pattern (Table 1) also suggests taking a less fatty diet like dairy foods, seafood, legumes & vegetables [35].

Table 1 The daily amount of food

Group of food	Healthy Mediterranean eating pattern style	Healthy US eating pattern style
oils	24g	17g
Protein food	6oz	4oz
Dairy	Two & half cups	Three cups or two cups
Grains	6oz	5oz
Fruits	Two & half	Two & half
Vegetables	One & half	Two & half

2.3 Treatment approaches for obesity

Several approaches are considered on the evidence based for the management of obesity. Like taking history of weight, category of body mass index, drugs, formula diet, lifestyle intervention & bariatric surgery etc.

3 Lifestyle intervention

Interventions of lifestyle are a basic thing so for the management of obesity life intervention plays a significant role. For this purpose, several approaches exist including behavior, physical activity & nutrition. It is good that the intake of energy is low by improving physical activity which shows their association with changes in behavior. So daily 500 kilocalories intake is best for weight loss. So, it is necessary to adjust the expenditure & total intake of energy during the management of weight loss. So, people face many difficulties during this time but some factors which are helpful in this matter are dietary intervention, social support & supervision [35]. The role of nutrition is significant in this matter of how we manage calorie demand by taking a healthy diet with proper energy intake which is not associated with obesity. So, in all these roles of energy intake, macronutrients, intermitting fasting, personalized nutrition, and weight loss programs all are helpful.

4 Conclusion

Obesity is considered a multi-factorial illness that not only affects the individual but also how a negative impact on the environment. By using dietary approaches, we prevent the risk of obesity. Less energy intake by focusing on the proper composition of nutrients & pattern of food leads to weight loss. Several tools are used by a person to overcome obesity by attaining the lifestyle, doing proper physical activity, etc.

Compliance with ethical standards

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Disclosure of conflict of interest

No conflict of interest.

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