



Efficacy of Dietary Intervention and Exercise on Obesity in Selected Community Areas of Lucknow

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Introduction

Obesity is defined as having an abnormally large quantity of body fat, which can be hazardous to one's health. Obesity has now reached the status of a major public health concern. Obesity is on the rise all around the world, but especially in poorer countries. Obesity was discovered in 42% of people under the age of 30 and 13% of those over the age of 30 worldwide. In both women (72.5%) and men (72.5%), obesity was identified in an Indian multicentric study (1.1 percent). Obesity is becoming a public health concern, as seen by the rise in the number of obesity-related disorders. In terms of health-care costs, it is believed that it is more expensive than smoking or binge drinking. Obesity is caused by a variety of etiologic causes. At the conclusion of the day, an energy imbalance causes weight gain because energy intake exceeds energy expenditure. A weight-loss clinic in Jabalpur, Madhya Pradesh, specialises in the treatment and prevention of obesity.

The benefits of recounting one's own life storey have been extensively demonstrated in literary works. A 48-year-old rural mother, a widow for 22 years, went to the chest clinic because she was having difficulty breathing. Her tiredness at noon was evident, and she slept off some of it as she went about her day's job. Her family claims that she snores a lot at night. Her breathing problems have nothing to do with her posture or sleeping habits.

She had four sons, one daughter, and one stepdaughter. Her husband committed suicide shortly after the birth of their youngest daughter, for reasons that are still unknown. This happened in 1987. This devastating catastrophe, combined with the fact that she was alone responsible for her children's upbringing, gave her a significant amount of emotional stress. As a result of the incident, she gained a significant amount of weight. Her lack of enthusiasm for exercise was aggravated by knee pain at the time. The family's financial condition had improved now that her children were employed and living on their own, and they were eating more fast food. That data was obtained from the patient's medical history. She was able to eat out more regularly as a result of her family's financial success.

The patient's original medical history looked like this: The family's financial condition has improved because all of her children now have secure housing, allowing them to eat more fast food. Their lunchboxes now include oil-fried snacks in addition to oil-fried cakes and pastries, fried non-vegetarian entrees, and carbonated beverages.

She was less active, ate more fast food, and was more emotionally agitated as a result of being a widow and parenting five children, which caused her to give up chewing tobacco. Her physical restrictions, such as knee pain and shortness of breath, made it difficult for her to engage in activities. All of these things contributed to her obesity.

She weighed 150.6 kg and stood 157 cm tall, indicating that she was severely obese (BMI: 61.09). Her medical history revealed morbid obesity, severe type II respiratory failure, and obstructive sleep apnea, all of which were successfully addressed. She had no family history of hypothyroidism or Cushing's illness, and no lab testing suggested that she did. At the time, she was not taking any antidepressants or performance-enhancing medicines. She also didn't have any vices and had never been arrested. She came to our health and wellness centre to be inspired to live a healthier lifestyle, and she was successful.

Management

Controlling obesity is made more difficult by a lack of awareness of the underlying causes of the disorder. Individuals should make an effort to maintain a healthy body weight in order to mitigate the consequences of predisposing features. To have a major impact on overall weight loss in the population, environmental modifications must be undertaken. Walking and cycling pathways, sites that encourage local transport, buildings with stairs strategically placed over elevators, and other programmes should be made available for community development. We looked after him for four weeks in total.

Assessment

Initially, height and weight were measured with a stadiometer and a digital bathroom scale, both of which were erroneous. Based on the facts provided, the BMI was calculated to be 61.09. The patient was found to be free of diabetes, hypothyroidism, and Cushing's syndrome.

Patterns of physical activity in the present and in the past

There isn't enough time in the day to exercise. She was a stay-at-home mom who adored her children and her home. Her house's courtyard was too small for her to fully explore. She also did not indulge in any other activities. Her employment also didn't require her to do any severe physical activities on a daily basis. She hasn't worked in two years, not even doing domestic duties. She gained a large amount of weight as a result, exacerbating her knee pain and shortness of breath. Her shortness of breath developed from happening solely while she was physically exerting herself to happening even when she wasn't.

Current and historical dietary habits

She lived on rice, like a peasant in southern India. Sugary liquids such as tea and coffee were served with rice-based diets. Refreshments included cakes, biscuits, chips, and cutlets. She would have a non-vegetarian dinner every three days. She consumed a wide range of fruits. She didn't eat beans, peas, or almonds. Her diet consisted of only rice and a few veggies.

Obesity is not a trait that runs in your family.

Because her obesity was interfering with her capacity to participate in regular activities, the patient sought to lose weight. Her massive weight was causing her to have shortness of breath and knee pain.

It is difficult to change one's behaviour.

This was accomplished by employing the transtheoretical model of change. Precontemplation, contemplation, preparation, action, and maintenance are the five stages of transformation (or maintenance). Precontemplation is the time when one is hesitant to make a change. After receiving advice on how to live a regular life, she proceeded from thought to action.

Setting objectives

New methods for goal setting are invented every week. The first week was spent developing new habits before implementing minor food and physical activity changes. We gradually reduced her carbohydrate, lipid, and protein intake over several weeks. We were able to increase our physical activity by switching from indoor to outdoor activities. It was a no-brainer to set concrete, quantifiable, and reachable goals.

Self-monitoring

Journals of diet and activity are important tools for assessing self-control. As a result, the patient became more active and set new goals for himself or herself. Keeping a diet and activity log may aid in your weight loss goals.

Participating in physical activity is beneficial.

The third component of the equation that effects body weight and weight gain is increased energy expenditure. In its broadest sense, physical activity comprises both exercise and ordinary activities. A strategy was devised to accommodate her physical limits [breathlessness and knee discomfort], adaptability, and financial and other resources. At least twice a day, the participants were given encouraging counsel on how to live a healthy lifestyle.

For the duration of the week, we wanted to make sure we had at least three hours of moderately strenuous physical activity every day. We cycled by hand for ten minutes, four times a day for the first few weeks. To pass the test, she had to climb 150 steps within the building. Even though she could only manage 75 steps on the first day, by the end of the first week, she was able to achieve 450 steps every day. She was able to complete 100 steps in a single session. The frequency of hand cycling was increased from once a day to three times a day for 15-20 minutes, while the length was decreased. On the third day, we began doing breathing exercises for the first time. The process was repeated every 2 hours throughout the day by the patient. The workouts lasted anywhere from 5 to 15 minutes.

At the conclusion of the second week, she was allowed to take her first steps outside. Her top speed was initially limited to 500 metres per hour. She was able to run 1.5 kilometres twice in 60 minutes after 20 days in the hospital (morning and evening). Hand cycling and breathing exercises were also included in the workout.

Making changes to one's dietary habits

For health and longevity, a plant-based, whole-food diet is the way to go. Long-term lifestyle adjustments are required rather than quick fixes. In addition to calorie reduction, a low-calorie diet is recommended. She limited her intake of high-calorie items by adjusting the size of her portions and the number of servings she took. Additional fruits, vegetables, legumes, and whole grain cereals were added to her diet. The minimum time between meals should be 4 hours to allow for proper digestion. There were no additional meals supplied during this time period. In between meals, fresh fruit or vegetable juices, as well as water, were served. She drank as much lemon juice and honey as she could. Lunch and dinner would be lighter versions of what they are ordinarily. Curd was substituted for milk, and the amount of milk consumed was gradually reduced until it was completely gone. Despite the fact that sugar is not vegetarian, it was included in the prohibition. Despite our best attempts, she refused to drink soy milk in favour of milk.

We switched her from rice-based meals to wheat-based meals, in addition to providing her with fresh vegetables and fruits, lentils, peas, almonds, and vegetable juices. Her breakfast meal included two wheat bread slices with fruit jam, a fresh vegetable salad, lentils, and yoghurt (25 gm). In the afternoon, we had bananas and two chappathis with 100 g of cooked rice each. Her dinner included two chappathis, coconut chutney, a fresh vegetable salad, and vegetable juices. Fresh juice was given every two hours. Rice was gradually phased out of her diet until it was completely eliminated. Over the course of seven days, we gradually moved her to a plant-based, whole-food diet.

During the third week of the semester, a three-day fruit and vegetable juice fast was compulsory. The diet was manageable for the patient on a daily basis. As a result, the patient lost a large amount of weight.

Discussion

Obesity is a complicated public health problem due to the multiple factors that contribute to it. Weight gain can be induced by a variety of factors, including several pregnancies, high stress, quitting smoking, drinking excessively, physical limitations, medical problems such as hypothyroidism, Cushing's syndrome, mental illness, and medicines such as steroids and antidepressants. Large-scale genome-wide association studies have connected obesity to genetics.

Her daughters are sceptical, despite her assertions that she only eats enough to keep her back in alignment. Many studies have shown that people, like this patient, regularly underestimate their daily calorie requirements. Obesity-related dietary components are prioritised lower than overall energy expenditure. She didn't leave her house very much because of her weight. Her accidental knee joint soreness made physical exercise tough for her. As she gained weight, her shortness of breath deteriorated, making it harder for her to walk around. Several studies have discovered a link between obesity and a decline in overall physical activity.

Sedentism, in its most basic form, is a way of life that entails little or no physical effort. Couch potatoes are inactive people who are commonly referred to as such. Clearly, this patient was a couch potato when he or she was younger. Individuals with less education and money, smokers, and betel nut chewers were shown to be less physically active than their counterparts in rural Taiwan. [15] According to a recent study, women in the United States who hadn't exercised in the previous month had a 41.4 percent age-adjusted obesity prevalence. [16] Physical activity during leisure time was found to have a statistically significant negative relationship with waist circumference and body mass index in rural South India (BMI). [17]

Physical activity has been found to help people avoid and control weight gain by rebalancing their energy levels. As previously stated, our lifestyle change technique resulted in a weight loss of 7.17 percent. Women who followed a 12-week diet and activity plan lost less weight than women who followed a diet-only or exercise-only plan, respectively. [18] When it comes to weight loss, we've discovered that the longer the workout, the more weight we shed. According to Jakicic et al., increasing physical activity by 200–300 minutes per week, according to Jakicic et al., aids overweight and obese women in losing weight more quickly. Many other studies have shown the same thing as this one, which found that exercising for 65 minutes per day at a low level helped people maintain their weight loss. Instead of exhausting the patient, we developed a brief burst of physical activity that she could easily incorporate into her everyday routine. Running, hand cycling, and breathing exercises are all great calorie-burning exercises. According to Jakicic et al., researchers discovered that intermittent exercise helped overweight women boost their physical activity levels.

The most successful weight-loss technique is a plant-based diet paired with moderate exercise. According to surveys, vegans on average weigh between 1.8 and 13.59 kg less than meat eaters. Several studies have found that combining a whole-food, plant-based diet with regular exercise can reduce body weight by 4–7% in as little as three weeks. These studies show that a well-balanced plant-based diet can help you lose weight quickly. A plant-based diet with an excess of refined carbs can stymie weight loss. A surplus of food is ineffective. The right foods can help you lose weight, and it is possible to do so.

As part of our approach, we told them not to eat any sweets or baked items. The adoption of a whole-food plant-based diet, frequent exercise, and the engagement of a motivated participant all contributed to the effectiveness of this intervention.

He chewed tobacco as a nonsmoker's alternative to cigarettes. Even if she quits, the satiety response will induce her to seek something sweet, so she will keep eating. We fed her with fresh fruit and vegetable juices every two hours.

She was able to reduce her blood pressure from 150/100 to 130/90 in just 20 days. According to Dickinson et al., a better diet, aerobic activity, alcohol, sodium, and fish oil supplements all had statistically significant effects. In this study, the average diastolic blood pressure was lowered by 2.3 mmHg (95 percent confidence interval: 0.2-4.3), while the average systolic blood pressure was reduced by 3.8 mmHg (95 percent CI: 1.4-6.1). [31] Making little modifications to one's lifestyle can result in an unhealthy BMI. [32]

We were able to lose weight because of the patient's high level of motivation. Her family helped her change her eating habits and slim down. It was difficult to persuade rural women to adopt a new dietary pattern. Her first few days on the new diet were difficult, but she was able to adjust in seven days. My stay in the hospital had a bad impact on my recovery. She was concerned about spending the time in the hospital required for the lifestyle treatment because she was so far away from home. She was able to keep her diet and exercise routine thanks to this, in addition to the frequent coaching.

Outcome

We were successful in accomplishing the following goals:

- Weight loss: On October 29, 2018, the patient had lost approximately 151.8 kg. For one week, we changed our eating habits and increased our physical activity, and our weight dropped from 149.1 kg to 149.7 kg. Her aims after nine days of intervention were to stick to a tight diet while increasing her physical activity. She lost 9.1 kg after completing a third-week juice fast and committed to our intervention programme with attentiveness for 20 days. We broke the previous world record of 139.8 kg in four days. Her dyspnea got less severe with time, and she became aware of it mainly when undertaking physically hard chores.
- The patient's noisy snoring began to diminish dramatically towards the end of the second week.

- Her blood pressure was 100/180 when she arrived. When she was released, her blood pressure was 90/140.

Conclusion

Body weight is the best predictor of overall health. Changes in one's lifestyle may be able to reverse this trend. There are numerous clinical practise recommendations available. The quantity of clinical recommendations has increased in recent years, making it difficult to keep up, let alone make appropriate use of these recommendations. Weight loss has been the subject of extensive research. Weight loss, according to the study, needs dietary changes as well as greater physical activity. Medical professionals should assist patients in resuming a healthy eating and fitness regimen that will assist them in overcoming their health issue or condition. Increased body fat is a serious condition that, if left untreated, can be fatal.

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