

# A critical case study to assess the effectiveness of diet and exercise on Obesity at selected community areas in Jabalpur, MP

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## Introduction

Obesity is defined as having too much body fat, which might harm one's health. Obesity has become a major public health issue. Obesity is rising globally, especially in underdeveloped nations. Obesity was detected in 42% and 13% of adults over 30 worldwide. An Indian multicentric study detected obesity in both women (72.5%) and men (1.1%). Obesity is becoming a health hazard, as seen by the growth of obesity-related illnesses. Some argue it costs more than smoking or binge drinking in terms of health care. There are numerous etiologic reasons for obesity. In the end, an energy imbalance causes weight gain, with energy intake exceeding energy expenditure. A lifestyle clinic in Jabalpur, Madhya Pradesh, specialized in obesity management.

## Situation Report

Literary works well document the benefits of narrating one's own life story. A 48-year-old rural mother, a widow for 22 years, went to the chest clinic complaining of shortness of breath. Her midday fatigue was noticeable as she slept off while going about her business. Her family claims she snores loudly at night. Her shortness of breath was unrelated to her posture or sleep habits.

She reared three boys, one girl, and a stepdaughter. For unknown circumstances, her husband committed suicide shortly after the birth of their youngest daughter. This was in 1987. This sad event, coupled with her solely raising her children, put her under a lot of emotional stress. The experience caused her to acquire weight. Her lack of enthusiasm in exercise was aggravated by her knee pain. Now that her kids had jobs and residences, the family's finances had improved, and they were eating more fast food. That came from the patient's medical history. Affluence in her family's finances led her to eat out more regularly.

The patient's original medical history is as follows: The family's finances have improved as all of her kids have secure housing, allowing them to eat more fast food. Their lunchboxes now include oil-fried cakes and cookies, fried non-vegetarian food, and carbonated drinks.

Because she was a widow and raising five children, she was less active, ate more junk food, and was emotionally stressed, so she quit chewing tobacco. Her physical constraints, such as knee pain and shortness of breath, limited her activity. All of these contributed to her obesity.

She was severely obese at 150.6 kg and 157 cm (BMI: 61.09). Her medical history revealed morbid obesity, severe type II respiratory failure, and obstructive sleep apnea. She had no history of hypothyroidism or Cushing's disease, and no lab testing showed it. She wasn't on any performance-enhancing drugs or antidepressants. And she had no vices and no arrests. She came to our health and wellness facility to be inspired to live a healthier lifestyle.

## Management

The paucity of knowledge about obesity's causation complicates management. To overcome the effects of predisposing characteristics, individuals should promote a healthy body weight. Environmental changes must be made to have a major impact on population-wide weight loss. Walking and biking lanes, places that encourage local travel, buildings with stairs strategically placed over elevators, and other programs should be available for community development. We cared for him for four weeks.

## Assessment

Initially, a stadiometer and a digital bathroom scale were used to measure height and weight. BMI was calculated using the given data and came out at 61.09. Diabetes, hypothyroidism, and Cushing's syndrome were all ruled out.

## Current and historical physical activity patterns

No time for exercise. She was a stay-at-home mom who adored her home. Her house's courtyard was too small for her to explore. She didn't do anything else either. Her employment also didn't need her to do any severe physical activity. She hasn't worked in two years, not even domestic tasks. After that, she gained a lot of weight, which made her knee pain and shortness of breath worse. Her shortness of breath moved from occurring only when she was physically exerting herself to occurring even when she was not.

## eating habits, present and past

She lived upon rice like a South Indian peasant. Sugary tea and coffee were staples of the rice-based diet. Refreshments included cakes, biscuits, chips, and cutlets. Every three days, she'd eat non-vegetarian. She ate fruits. She ate no beans, peas, or almonds. She just ate rice and very little vegetables.

Your family has no history of obesity.

The patient wanted to lose weight because her obesity was limiting her regular activities. Her enormous weight was causing her shortness of breath and knee trouble.

## changing one's habits

For this, we employed the transtheoretical model of change. The five stages of transformation are precontemplation, contemplation, preparation, action, and maintenance. Precontemplation is a stage of hesitation to change. She moved from contemplation to action after receiving advice on how to live a normal life.

## defining goals

Goal-setting strategies were developed weekly. The first week focused on changing habits before adding small food and activity changes. We reduced her carbohydrate, fat, and protein intake over weeks. We increased our physical activity by switching indoor to outdoor activities. Setting explicit, quantitative, and reachable goals was obvious.

## Self-monitoring

Measuring self-control with diet and activity logs This encouraged the patient to become more active and set new goals. Keeping a diet and exercise log may help you lose weight.

## Taking part in physical activities

The other part of the equation that determines body weight is increased energy expenditure. Total physical activity includes exercise as well as daily activities. A plan was devised to fit her physical limits [breathlessness and knee discomfort], her adaptability, and her resources. The participants got encouraging tips on living a healthy lifestyle at least twice a day.

We wanted to make sure we got at least three hours of moderately strenuous physical activity most days of the week. Initially, we hand cycled for ten minutes four times per day. The test required her to walk 150 steps inside. She could barely do 75 steps on the first day, but by the end of the week, she could take 450 steps every day. In one instance, she managed 100 steps. Hand cycling was increased from once daily to three times daily for 15-20 minutes. On the third day, we began doing breathing exercises. The patient did it every 2 hours during the day. The exercises lasted from 5 to 15 minutes.

By the second week, she was able to take her first steps outside. Her initial speed was limited to 500 m/h. She could run 1.5 km twice in 60 minutes after 20 days in the hospital (morning and evening). Hand cycling and breathing exercises were also done.

## altering one's diet

A plant-based, whole-food diet is the way to go. Long-term lifestyle adjustments, not quick fixes, are implemented. A low-calorie diet is encouraged along with calorie reduction. She limited her intake of high-calorie foods by regulating portion size and serving number. More fruits, vegetables, legumes and whole grain cereals were added to her diet. The minimum time between portions is 4 hours to allow for normal digestion. No additional meals were supplied in the interval. Between meals, fresh fruit or vegetable juices and water were served. She drank lemon juice and honey right away. Lunch and dinner would be lighter than usual. Curd was used instead of milk, which was gradually reduced until it was gone. The ban included sugar, which isn't vegetarian. We tried giving her soy milk instead of milk, but she hated it.

In addition to fresh vegetables, fruits, lentils, peas, almonds, and vegetable juices, we switched her from rice to wheat-based meals. Her breakfast included two wheat bread slices with fruit jam, a fresh vegetable salad, and lentils (25 gm). In the afternoon, we had fruits and two chappathis with 100 grams of rice. 2 chappathis, coconut chutney, fresh vegetable salad, and vegetable juices were her supper. Juices were supplied every 2 hours. In her diet, rice was steadily reduced until it was completely eliminated. We gradually introduced her to a plant-based, whole-food diet over seven days.

During the third week, she had to do a three-day fruit/vegetable juice fast. The patient tolerated the diet daily. As a result, the patient lost a lot of weight.

## Discussion

Obesity is a complex public health issue with many contributing factors. Obesity risk factors include several pregnancies, severe stress, quitting smoking, drinking too much, physical limitations, medical issues like hypothyroidism, Cushing's syndrome, mental illness, and medications like steroids and antidepressants. Large-scale genome-wide association studies link obesity to genetics.

Her daughters reject her claim that she only eats enough to keep her back straight. Like this patient, many studies reveal that people regularly underestimate their daily calorie demands. Total energy expenditure weights obesity-related dietary factors. She didn't leave her residence often due to her weight. Her accidental knee joint

pain made it tough for her to exercise. As she gained weight, her shortness of breath increased, making her immobile. Several studies link obesity to a decline in overall physical activity.

Sedentism is a manner of living with little or no physical exercise. Couch potatoes are inactive people who are commonly called that. Clearly, this patient was a couch potato. In rural Taiwan, women, individuals with less education, income, smokers, and betel nut chewers exercised less than their peers. [15] A study found a 41.4 percent age-adjusted obesity prevalence among women in the US who had not exercised in the preceding month. [16] In rural South India, leisure-time physical activity had a significant negative relationship with waist circumference and BMI. [17]

Physical activity helps people avoid and manage weight gain through influencing energy balance. As previously stated, our lifestyle modification technique resulted in a 7.17 percent reduction. Women on a 12-week diet and activity program lost less weight than women on a diet-only or exercise-only regimen. [18] We noticed that the longer the exercise session, the more weight we shed. Adding 200-300 minutes of exercise each week helped overweight and obese women lose weight faster, say Jakicic et al. Many more studies have achieved similar conclusions. who discovered that exercising 65 minutes of moderate-intensity exercise each day helped them maintain their weight loss. Rather than exhausting the patient, we created a short-burst physical exercise intervention that she could easily incorporate into her everyday routine. Calorie-burning activities include brisk walking, hand cycling, and breathing exercises. Intermittent exercise helped overweight women boost their physical activity levels, according to Jakicic et al.

A plant-based diet and moderate exercise are the best weight-loss plans. Vegans are 1.8 kg to 13.59 kg lighter than meat eaters, according to studies. Multiple studies have demonstrated that a whole-food, plant-based diet combined with regular exercise reduces body weight by 4-7 percent in 3 weeks. These findings show that a nutritious plant-based diet can help you lose weight quickly. Too many refined carbs in a plant-based diet will hinder weight loss. A lot of food doesn't help. It is feasible to lose weight by eating the right foods.

We told them to avoid sweets and baked products as part of our approach. This intervention's success was attributed to a whole-food plant-based diet, regular exercise, and a motivated participant.

He chewed tobacco as a nonsmoking alternative. Even if she stops, the satiety reflex will make her need something sweet. Every two hours, we fed her fresh fruit and vegetable juices.

With our treatment, she went from 150/100 to 130/90 in just 20 days. DICKINSON et al. found statistically significant effects of a better diet; aerobic activity; alcohol; sodium; and fish oil supplements. Diastolic blood pressure was reduced by 2.3 mmHg (95 percent CI: 0.2-4.3), while systolic blood pressure was reduced by 3.8 mmHg on average (95 percent CI: 1.4-6.1). [31] Unhealthy BMI can be obtained by making minor lifestyle modifications. [32]

We were able to lose weight due to the patient's great motivation. Her family helped her adjust her eating habits and thin down. It was difficult to encourage rural women to adopt a new diet. Her first few days on the new diet were difficult, but she adjusted in seven days. My rehabilitation was hampered by my hospitalization. Because she was so far from home, she resisted spending the time in the hospital required for the lifestyle treatment. This, plus the regular coaching, persuaded her to stick to the diet and exercise plan.

#### Outcome

We achieved the following goals:

Weight loss: On October 29, 2018, the patient weighed 151.8 kg. Changed our diet and exercised more for 1 week and went from 149.1 kg to 149.7 kg. A rigorous diet and increased physical activity were her goals after 9 days of intervention. After a third-week juice fast and 20 days of careful commitment to our intervention program, she lost 9.1 kg. We smashed the old record of 139.8 kg in four days. Her dyspnea became milder, and she only noticed it during physically hard chores.

Towards the conclusion of the second week, the patient's noisy snoring decreased.

Her BP was 100/180 when she arrived. Her BP was 90/140 upon discharge.

### Conclusion

Weight is the best predictor of overall health. Changes in lifestyle may be able to reverse this trend. There are numerous clinical practice recommendations. The number of clinical recommendations has increased in recent years, making it difficult to keep up, let alone utilize them appropriately. Weight loss has been extensively studied. Weight loss requires dietary adjustments and greater physical exercise, according to research. Medical specialists should help patients get back on track with a healthy eating and exercise plan that will help them conquer their health issue. Excess body fat is a serious disease that can kill you slowly. References

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