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EFFECT OF TWO MEAL REGIMEN ON WEIGHT LOSS AMONG OBESE ADULTS: A LITERATURE REVIEW

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ABSTRACT Obesity is a major risk factors for a number of diseases, including cardiovascular diseases, diabetes, and cancer. Meal timing or frequency of meals is an important aspect of nutrition, with profound effects on human health and lifespan. Excessive energy intake or frequently eating is associated with an increased incidence of chronic diseases including diabetes. Recent human studies suggest that two meal regimen associates with improved effectiveness of weight-loss therapy in overweight and obese adults and also causes statistically significant reduction in fasting insulin levels and HbA1C in patients with pre-diabetes. Recent findings suggest that it may be possible for many people to adopt a long-term change in their lifestyle from eating 3 meals plus snacks every day to two meal regimen if they are able to keep on the new eating pattern during a transition period of approximately 3 to 6 months.

KEYWORDS : Overweight, Obesity, Body mass index, Two meal regimen.

INTRODUCTION

According to WHO, overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health. The body mass index (BMI) of 30 or more is generally considered obesity. A person with a body mass index equal to or more than 25 is considered overweight. Obesity is a major risk factors for a number of diseases, including cardiovascular diseases, diabetes, and cancer.[1] In 2015, obesity affected 2.2 billion adults and children worldwide, or almost 1 in three of all people. This includes more than 600 million adults and 108 million children with BMI exceeding 30 which is a threshold for obesity.[2]

According to the National Family Health Survey (NFHS-4), the number of obese people has doubled in the country in past 10 years and according to this survey, urban population is more prone to obesity as compared to the rural. In 1975, India has 0.4 million obese men, or 1.3% of the global obese population, but it has increased in 2014, to fifth position with 9.8 million obese men, or 3.7% of the global population. Among women, India has jumped to the third rank with 20 million obese women, or 5.3% of global population.[1] Although one of the national health objectives for the year 2020 is to reduce the prevalence of obesity among adults by 10 percent, current data indicate that the situation is not improving.[3]

Our ancestor's physical and psychological strength were healthier. Proper quality and quantity of food intake in right time may be one of the secret of their health. Time has a major role in digestion, absorption and metabolism. If person fails to take food according to the physiological rhythm of hunger then such timing will greatly affect the nutrition absorption by body, resulting in less energy to work and later may lead to various kinds of life style diseases. This work will highlight the importance of right time for food intake.[4]

IMPORTANCE OF FOOD TIMING

Timely taken food will digest properly, nourishes body on its optimum and It maintains homeostasis of body. As per the Vedic routine, one should eat only twice a day after performing 'Agnihotra homam' in the morning and in the evening (before sunset). One should eat only after the complete digestion of previous meal. The food takes an about 8 to 11 hours for digestion. When the body is still in the process of digesting the previous meal, it is seen as unhealthy to eat. It is also advised that one should not eat anything for at least four hours after a meal. A 10 to 12 hours gap between dinner and breakfast is advisable, and at least two hours gap between dinner and going to bed is seen as beneficial.[4]

Meal timing or frequency of meals is an important aspect of nutrition, with profound effects on human health and lifespan. Excessive energy intake or frequently eating is associated with an increased incidence of chronic diseases including diabetes and is a leading cause of disability and death in Western countries. Observational trials in humans indicate that eating more often than two or three times a day may leads to overweight and obesity[5].

EFFECT OF TWO MEAL REGIMEN ON WEIGHT LOSS

In developed as well as developing countries, obesity is a major health problem. The "carbo-insulin connection" theory was popularized from 1997 to 2004 by late Dr. Shrikant Jichkar. To lose weight and prevent obesity, he advocated the idea of eating only twice a day. In a self-controlled community trial conducted by Dr. Jagannath Dixit in the year 2013-14 on eating twice and losing weight campaign, total 446 individuals were participated and result indicates that the weight loss was average 1.5 kg in first month, 4.2 kg in 3 months and 6.8 kg in 6 months; and decrease in waist circumference in participants was average 0.5 cm in 1st month, 1.5 cm in 3 months and 3.5 cm in 6 months without any sideeffects.[6]

As per theory, every time we consume any food item containing carbohydrates we secrete insulin. The quantity of insulin secreted is almost the same when we eat breakfast or complete lunch or dinner. There is a baseline secretion 18 to 32 unit per 24 hours which is beyond our control. With each episode of eating, we secrete insulin. The body uses carbohydrates as a source of energy and fats remain untouched as our blood always has high level of insulin. Being the saving hormone, insulin tries to store energy in the form of fats. When we are fasting for example, 3 to 4 hours after lunch or dinner, our insulin level goes down. The lowered level of insulin stimulates the body to use firstly liver glycogen and then fats for the purpose of energy. Therefore when a person eats only twice in the day, he or she loses weight.[6]

Diet advice by Dr. Dixit in effortless weight loss programme is as follows[6]:

- Usually a person is truly hungry twice in the day. You have to identify the time of the day when you are really hungry; Some people have a pattern of 1 pm and 9 pm and others have a pattern of 9 am, 6 pm.

- Eat whatever you are eating presently at these two times; just divide the quantity in to two.
- More quantity (60 to 70%) should be at the time of lunch and remaining at dinner.
- You have no restriction on any food item.
- You should not take tea/coffee with sugar, dry fruits, fruits or any other eatables in between the two meals.
- You should also not use sugar substitutes as the sweet taste stimulates the secretion of insulin.
- If at all you feel hungry in between two meals, you can take homemade buttermilk or coconut water.
- In 45 minutes you have to walk 4.5 km every day.
- Every 15 days, check your weight on the same weighing machine.
- Check your waist circumference every month.

In a self-controlled preventive trial conducted by Dr. Jagannath Dixit in the year 2017, 33 males and 15 females were included in the study who were in pre-diabetic state. The result showed that there was significant reduction in fasting insulin levels and HbA1C of pre-diabetes patients. This was statistically significant with p value less than 0.01. In three months period, all pre-diabetics converted to non-diabetic state. This suggests that eating twice a day and walking 4.5 km in 45 minutes every day causes statistically significant reduction in fasting insulin levels and HbA1C in patients with pre-diabetes. It was seen that all 48 participants converted to nondiabetic.[7] Frequent eating predisposes to a higher energy intake by increasing food stimuli and difficulty controlling energy balance.[8] In a randomized controlled study, more frequent eating was not related to a greater reduction in energy intake or body weight.[9] The surprising effectiveness of time-restricted feeding without altering caloric intake or source of calories suggests a potentially effective meal-timing intervention for humans. Recent human studies suggest that earlier meal timing associates with improved effectiveness of weight-loss therapy in overweight and obese adults.[10] Recent findings suggest that it may be possible for many people to adopt a long-term change in their lifestyle from eating three meals plus snacks every day to an Intermittent Energy Restriction diet if they are able to keep on the new eating pattern during a transition period of approximately 1 month.[11]

CONCLUSION

It is evident from the researches that eating twice a day can effectively reduce the weight as well as central obesity. There is no need of a doctor and no need to spend money to lose weight. Obese people who are nondiabetic can follow this two meal regimen or diet plan suggested by Dr. Dixit throughout the life without any problem.

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