

**EFFECT OF DIET AND YOGA ON OBESITY IN LIFESTYLE
DISORDERS - A RESEARCH ARTICLE****Neha Sheokand* Phd Scholar and Meenakshi** Phd Scholar**

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ABSTRACT

A increased risk of disease is linked to central obesity. In the past, yoga helped obese people with their waist circumference (WC) and BMI. Additional anthropometric metrics and indicators forecast the likelihood of contracting illnesses linked to with central adiposity. Therefore, the current study sought to evaluate how yoga or dietary guidance affected these metrics. Determining the changes in quality of life (QoL) in light of the significance of psychological aspects in obesity was the secondary goal. Foods which are mentioned in Ayurvedic textbooks for the management of obesity are aimed to pacify KaphaDosha and Medodhatu, caused downward movement of Vata, arerichindiet aryfiberandha velowglyce micindex. Theaim of the study was to evaluate the efficacy of diet which is mentioned in Ayurvedic textbook in the management of obesity.^[1]

KEYWORDS: *Obesity, Significance, Diet, Yoga.*

INTRODUCTION

The body's internal transport system, or srotas, supports the activities of important biofactors like tridosh, seven dhatu, oja, and others. Thirteen srotas were detailed by Acharya Charak, while eleven pairs were described by Acharya Shushrut. Medovahasrotas is the term used to describe the passage of meda to the destination tissue, i.e., the channel that provides nutrients to medodhatu. Every srota has its own moolasthan, or site of origin. According to ayurvedic literature, the moolasthan of the medovaha srotas are Vrikka, Katti, and Vapvahana. Medo

dushti, which leads to medovridhi/sthaulyata, is caused by various Ahar and Vihar, such as Atibhojana, Adhyasana, Avyayama, Diwaswapna, etc. According to the WHO, obesity is a widespread chronic condition characterized by excess body fat. India is in the top ten. One way to translate the term "ayurveda" is "science/wisdom of life." Ayurveda's primary goals are to address the underlying causes of illness and preserve the health of those who are healthy. The three fundamental components of the body are dosha, dhatu, and mala. One in healthy condition they maintain and nourish the body thus lead to the state of equilibrium. If there is an imbalance created between these factors they get vitiated and leads to a diseased state. In Ayurveda, dhatus are said to be the fundamental base of the body. Dhatus support the basic structure and function of the body. Dhatus are of 7 in number which are rasa, rakta, mamsa, meda, asthi, majja and shukra. The dhatu which is next to Mamsa dhatu and before the Asthi dhatu is Meda dhatu. Meda dhatu is considered to be a fatty tissue of the body as per the descriptions of the Samhitas but it covers the other component also. Fatty tissue is one of the components of Meda dhatu.

Srotas

According to Ayurveda, the human body is composed of many channels that carry out all of the physiological and functional processes known as srotas. For the human body to develop properly, these srotas are the conduits that distribute dosha, dhatu, mala, and other substances to different areas of the body.^[3] A person's health depends on these channels operating properly, and disease results from blockages in these channels. In spite of the existence of numerous srotas, Acharya Charak has stated that there are thirteen srotas while Acharya Sushrut has described 11 pairs of srotas.

Medovaha srotas

The channels that are in charge of the digestion, absorption, and movement of meda dhatu in its many forms are called medovaha srotas. According to Acharya Charak, the moola of Medovaha srotas is Vrikka and Vapavahan. Vrikka and Kati have been named by Acharya Sushrut as the moola of Medovaha srotas.^[5] Acharya Vagbhatt has mentioned Vrikka & Mamsa as moola of medovaha srotas. Acharya Charak stated that medovaha srotodushti leads to the symptoms of asthanindita purusha like atisthula (obesity). Ayurveda has included atisthula (Overweight or obese) person in Asthanindita Purusha.^[6,7] Sthaulya is Medo and Mamsa vikara and Pradhana Santarpanjanya Vikara.

Life style disease

Life style disease can be defined as disease associated with one's life style. These diseases are non communicable diseases. They are caused by lack of physical activity, unhealthy diet, alcohol and smoking tobacco which can lead to heart diseases, stroke, obesity, Type 2 DM, lung cancer etc.

Obesity

Obesity is essentially a lifestyle disorder marked by excessive fat buildup that results in overweight. This is one of the most prevalent nutritional disorders, when the body accumulates excessive amounts of adipose tissue beyond physiological limitations as a result of consuming more calories than it expends. According to the WHO, obesity is a widespread chronic condition characterized by excess body fat. Over 1 billion people are obese globally, with 650 million adults, 340 million teenagers, and 39 million children affected. In India, 135 million individuals suffer from obesity.^[2-3]

Symptoms of obesity

- *Gurugatrata (Heaviness in body)
- *Javoparodha (Inability to do work)
- *Daurgandhya (Foul body odour)
- *Atikshudha (Excessive hunger)
- *Nidradhikya (Excessive sleep)
- *Atipipasa (Excessive thirst)
- *Vyavayakasta (Difficulty in performing sexual act).

Etiology of obesity

Overweight or Obesity is the result of genetic and environmental factors i.e., to say who is genetically predisposed to obesity with minor changes in the environmental factors starts gaining weight on the other hand one that is not predisposed, takes longer time and requires excessive use of environmental factors for developing obesity. In case of obesity the distribution of fat is limited to abdomen, trunks and buttocks hence it is termed as central obesity. The extremities remain almost thin. The adipose cells are hypertrophied. In metabolic obesity the lesion is inborn or acquired either in the carbohydrate or fat metabolism. So whatever one's taken, more or less, is converted into fat and gets deposited. Habitual hyperphagia or lack of physical exercise or unbalanced diet may lead to secondary metabolic disturbances. Indicating the importance of this disorder, a separate chapter

Medorogadhikar is mentioned Yogaratnakara. Describing the etiology, he says that due to lack of exercise, sleeping during day time and intake of kapha increasing diet the sweet juices of the (ingested) food are converted into sneha (fatty acids) which leads to increase in fat. He also explains its pathogenesis and quotes that since the increased meda blocks the channels, so the other dhatus are not properly nourished, as a result fat is further increased and the person becomes incapable of performing the physical activities.

Matsayasana: The first asana posture is mattasana, which makes the body shape resemble a fish in water. Such a claim is audacious because, although we do not identify the pose as fish, it is possible to float on the water in this pose without moving. The pituitary and thyroid glands are stretched by this. It ensures good functioning by improving circulation in these glands. Additionally, the muscles in the abdomen and thighs are systematically stretched.

Uttanapadasana: Also known as Sarvangasana or Halasana. This Asana creates pressure on the lower abdomen and stretches abdominal muscles. So that it regulates bowel habit, improve digestion and also be helpful to decrease the amount of fat from greater omentum.

Pavanamuktasana: The word 'Pavan' means wind and the word 'Mukta' means to release or to make free. It is so called because it is very useful in removing wind or flatulence from the intestine and stomach. This Asana gives an excellent massage to the abdomen. In this pose the abdominal muscles are tensed and simultaneously internal organs are compressed by the folded legs.

Bhujangasana: This Asana is described in Gheranda Samhita. In Sanskrit, Bhujanga means Kobra. The final position of this Asana resembles the hooded snakes hence it is called Bhujangasana. It produces extension of spinal cord, it expands chest and strengthens chest muscles. The vital capacity of lung is increased by the practice of this Asana regularly. It improves digestion and respiration, it reduce size of protruding belly and shape up the abdomen.

Dhanurasana: Assuming the shape of a bow at the final position is called Dhanurasana. It is described in Hatha Pradipika and also in Gheranda Samhita. It makes spine and back muscles flexible and checks nervous weakness. It helps in removing constipation and Pitta disorders. It prevents lumbar spondylosis. The muscles of arms and legs becomes strong by regular practice of this Asana. This Asana also reduce extra fat from abdomen.

Trikonasana: This Asana has also come through tradition. It has been described widely in modern Yoga texts. We assume a triangular form through this practice hence it is called as Trikonasana. Its practice makes the spine flexible hence is useful in back pain. It reduces stiffness of hip joint and makes it flexible. It strengthens the muscles of arms and improves stone and tolerance.

Pashchimottanasana: Hatha Pradipika contains this pose. The definition of 'Tana' is stretch, and 'Pashchima' is return. The abdominal muscles are strengthened and the abdomen is shaped by this pose. It eliminates the chance of sciatica. It makes the calf and leg muscles more flexible and less tense. It lessens the hip joints' stiffness.

Obesity assessment criteria

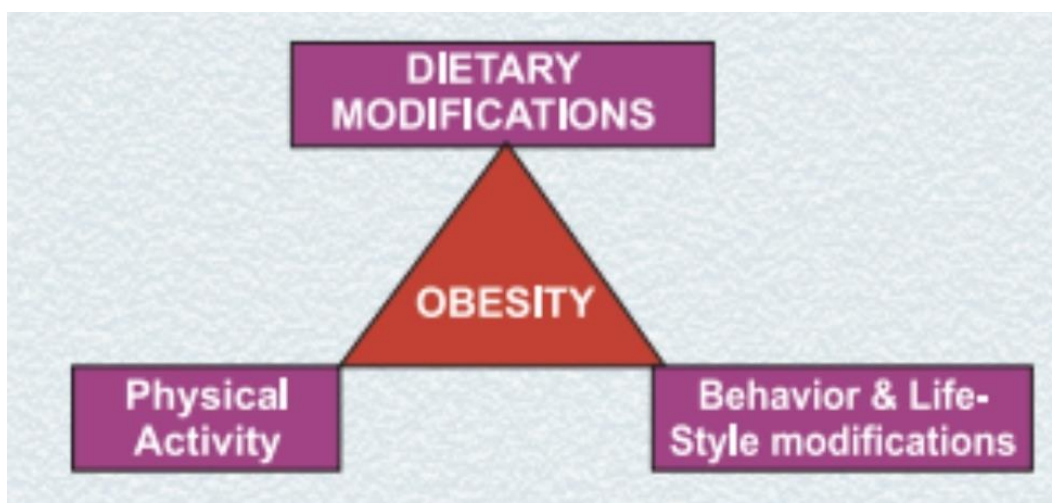
Assessment criteria:-The assessment criteria of Sthaulya (obesity) which has described in the different ayurvedic text and applied after some adaptations. A grading scale was used to record the therapeutic effects. Swas kricha, Daurbalya, Excessive perspiration, Polyphagia, Polydipsia was graded 0, 1, 2, and 3 based on severity which is shown down.

Symptoms	0	1	2	3
Swas Kricha	No Swas kricha	Mild Moderate severe		
Swedabadha (Excessive perspiration)				
Daurbalya (weakness)	No weakness			
Ati-Kshudha (Polyphagia)	No			
Ati-Pipasa (Polydipsia)	No			

The Dravya (drug) possessing Katu (Pungent), Tikta (bitter) and Kashaya Rasa (astringent essence) and also with Lekhana Karma (scrapping) facilitates for Soshana (drying up) and removal of liquefied or detoxified Kapha and Meda (fat). Kaphahara, Vatahara and Medohara Dravyas are helpful in the management of Sthaulya (obesity). These drugs are Agni-Deepak (appetizer) and Aam Pachaka (digestives). All of these prescribed Ayurvedic medicines reduce Meda(fat), Kapha, kleda (moisture), Ama & Vata. Exercise and walking normalize the fat metabolism and increase the Dhatavagni (metabolism at the level of tissues), mobilize the Medodhatu (fat) and gives fitness to the body

Yogic & Diet

Dietary management



Dietary management

The Yogic diet, popularly known as Satvic diet is the most preferred diet in obese condition. Satvic diet contains more of fresh fruits and vegetables in its natural form, soup etc. Rajasik foods like fried food items, spicy foods, soft drinks and beverages, fast foods etc. should be limited. Tamasik foods like non-vegetarian food items; alcoholic drinks etc. must be avoided.

Diet to be followed in obesity

*Ayurveda underscores the significance of a well-balanced diet in weight management. *The principles of the Ayurvedic diet advocate the consumption of fresh, seasonal, and whole foods that align with one's body type.

*Some Ayurvedic recommendations for weight loss include:

*The use of millet is advised for obesity. E.g., Jowar, bajra, etc. They help in losing weight.

*Consuming water infused with good quality honey is a good remedy in the long term to lose weight.

*Also, use of buttermilk, warm water is helpful.

*Spicing up meals with metabolism-enhancing spices such as turmeric, cumin, and black pepper.

*Avoiding processed and fried foods, sugary drinks, and excessive salt intake.

*Barley is also one of the best choices in grains for obesity.

*Among dicots, green gram, and horse gram are preferable.

Diet plan for obesity

Time	Ayurvedic diet plan	Standard diet plan
7am	Kulatha/Mudga(100g)yusha ⁴ (gruel)Cap Garcini (400 mg) no.2	Sprouted Bengal gram(100 g)
10am	Buttermilk ⁵ (200 ml)	Buttermilk(200ml)
1pm	Yavachapati(2)-50g Leafy vegetable- spinach/fenugreek/amaranth(100g)Vegetab le-beans/ cabbage/ ash gourd/ tomato(100 g)Root and tuber –carrot/ knolkhol (25 g)	Wheat chapatti(2)- 50g Leafy vegetable(100g) Other vegetable(100g) Root and tuber(25g)
4pm	Mixed salad (100 g)Cap Garcini(400mg)no.2	Mixed fruits-100g
7pm	Yavachapati(2)-50g Leafy vegetable- spinach/fenugreek/amaranth(100g)Vegetab le-beans/ cabbage/ ash gourd/ tomato (100 g)Root and tuber –carrot/knolkhol (25 g)	Wheat chapatti(2)- 50g Leafy vegetable(100g) Other vegetable(100g) Root and tuber(25g)
8pm	Skimmed off milk(200ml)	Skimmed off milk(200ml)

DISCUSSION

Drugless treatments like yoga and naturopathy are becoming more and more popular. Both are quickly becoming the most effective substitute therapies. Drugless therapy has also been stated by Sushruta, who also states that ailments can be healed by maintaining a healthy diet and lifestyle without the need of medication. However, the disease cannot be healed even with hundreds of medications if the right diet and lifestyle are not followed. Yoga has been shown to be useful in the treatment of obesity and overweight. All these factors are important in determining the life style, dietary habits and behavior as well as health consciousness of the patients. The dietary styles and quality of diet are also vital factors in maintenance of proper functioning of digestive system. Any wrong habit can lead to disturbances. Sedentary life style is the main cause of excess deposition of fats in the body. Increased calorie intake and decreased work out create the imbalance in homeostasis resulting into ample physical and psychological disorders. Exercise is the only non-invasive way to burn excess calories. To resist and reduce further accumulation of toxins in the body, Day time sleep should be avoided.^[4-6]

Asanas like Pawanmuktasana, Uttanapadasana, Paschimottanasana, Dhanurasana, Matsyasana etc are effective in reducing the deposition of fat (abdominal in particular) through the stretch receptor stimulation. These also improve muscle tone and muscle power to strengthen the musculoskeletal system. Other balancing postures like Tadasana, Vrikshasana provide the mind-body balance to increase self-consciousness, self-awareness and self- realization. km

walking in the Morning time. Dietary items like Pathya (wholesome)- Yava (Barley) + Bajara (Millet) + Makka (Maize) + Gehu (Wheat) Flour are good sources to reduce excessive appetite.

Apathya (unwholesome)- Dadhi (Curd), Tea, Fast Food, Ghee, Salt, Heavy Food, etc to be avoided. Diet has a role to maintain lean body mass, supply energy for physical activity and supply antioxidants for lipid oxidation. Most of the fuel used in exercises done for a longer duration and at higher intensities such as brisk walking, long distance running and cycling is fat.^[7] The more trained a muscle, the greater its ability to use fat as a fuel. After a period of aerobic training, muscle cells contain more and larger mitochondria. More fatty acids that are released from adipose tissue store in the bloodstream, then much fat will be used by the muscle. Due to antioxidant properties in foods there was a considerable reduction in LDL oxidation in the blood stream and thus slow LDL uptake into scavenger cells. Fats and oils in foods are mostly in the form of triglycerides. Although calorific values were similar in both the groups, Ayurvedic diet group contains less fat which might have led to significant reduction in triglyceride and VLDL levels in subjects. Ayurvedic diet group showed better relief in most of the subjective parameters among which, the effect on pacifying hunger was statistically significant. It may be due to more filling effect in Ayurvedic diet. Kulattha Yusha takes longer time for digestion and gives a sense of satiety.^[7]

CONCLUSION

Yoga improves mood and lessens anxiety by lowering the body's levels of stress chemicals. It also helps prevent diseases like diabetes and high blood pressure. All of this promotes improved health and lessens the likelihood of using medications that cause weight gain. A positive attitude reduces needless or premature cravings and fosters a mindful eating environment. This results in a shift in eating patterns and may help people lose weight. Yoga helps people with joint pain and other physical discomforts, which encourages them to be more active all day. The weight loss process can then be accelerated by starting an additional workout regimen. Ayurvedic medicines along with exercise, walking, and lifestyle change, follow the Pathya-apathya (wholesome-unwholesome) can cure Sthaulya or obesity. Thus Yoga along with some dietary changes help in reducing Obesity.

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