



# “AN OBSERVATIONAL STUDY ON EFFECT OF WHEAT RESTRICTED DIET IN OBESITY W.R.T. STHOULYA”

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## ABSTRACT

The WHO identifies main global leading risks factors causing today's disease, disability & deaths obesity is one of the cause among this. Obesity is mainly due to the imbalance of high energy input through rich foods and low energy expenditure due to lack of physical exercise. In India the prevalence of obesity is higher in urban areas than rural population. In ayurvedic system of medicine obesity is considered under the title of 'Medorog' which stands amongst 'Asht Ninditya Roga' as 'Sthaulya Roga' in *charak samhita*. Till now, lot of research work has been done in modern science as well as in Ayurveda; still there is lacuna in the management of obesity. In this situation, Ayurveda has many positive and successful treatment bases for sthaulya. Wheat is a staple food throughout the world and an important source of nutrients for many millions of people. However, the last few years have seen increasing concerns about adverse effects of wheat on health, mainly concerned with increase in obesity and Type II diabetes. The starch from the wheat is generally used in our regular diet called 'Maida. It has super fattening, super-inflammatory, super-addictive effects that makes you crave and eat more. On review of literature it is observed that wheat diet will have tendency to cause obesity. Thus in present study emphasis has been made to study the role of wheat restricted diet in obesity. A clinical study will be done by advising special diet along with exercise in 10 obesity patients.

**Keywords:** *wheat diet, obesity, gluten*

**Introduction:**

Obesity is a condition characterized by the excessive accumulation and the storage of fat in the body. The WHO identifies main global leading risks factors causing today's disease, disability & deaths. Obesity is mainly due to the imbalance of high energy input through rich foods and low energy expenditure due to lack of physical exercise. The prevalence of overweight and obesity has also increased in children and adolescents in developing countries, from 8.1% (7.7–8.6) to 12.9% (12.3–13.5) in 2016 for boys and from 8.4% (8.1–8.8) to 13.4% (13.0–13.9) in girls. In India the prevalence of obesity is higher in urban areas than rural populations. In ayurvedic system of medicine obesity is considered under the title of '*Medorog*' which stands amongst '*Asht Ninditya Roga*' as '*sthaulya Roga*' in *charak samhita sutrasthan 21/8-9*. Till now, lot of research work has been done in modern science as well as in Ayurveda. In this situation, Ayurveda has many positive and successful treatment basis for *sthaulya*. The management of *sthaulya* is so scientific is so scientific and contemporary, that there is always a wide scope of research in ayurveda. Thus, the present research work is undertaken to study 'weight loss in obese person by eliminating wheat in regular diet.

Wheat is a staple food throughout the world and an important source of nutrients for many millions of people. However, the last few years have seen increasing concerns about adverse effects of wheat on health, this relates to two concerns: those wheat products are disproportionately responsible for increase in obesity and type 2 diabetes and here we focus on first.

Wheat contains these 3 components which lead to obesity:

- Super Starch – amylopectin A is super fattening.
- Super Gluten that is super-inflammatory.
- Super Drug that is super-addictive and makes you craves and eats more.
- The starch from the wheat is generally used in our regular diet called '*Maida*'

On review of literature it is observed that wheat diet will have tendency to cause obesity. Thus in present study emphasis has been made to study the role of wheat restricted diet in obesity.

**Aim :**

An observational study on effect of wheat restricted diet in Obesity (*Sthaulya*).

**Objectives of the study:**

1. To Study etiopathogenesis of obesity (*Sthaulya*) in patients who are taking wheat in his regular diet.
2. To study effect of wheat restricted diet on BMI in obese patients.

## Hypothesis of the study:

### Null hypothesis-

$H_0$  : There is no significant effect in weight loss with eliminating wheat in routine diet.

### Alternative hypothesis-

$H_1$  : There is a significant effect in weight loss with eliminating wheat in routine diet.

## Review of Literature:

1. Saja K, Chatterjee U, Chatterjee BP, Sudhakaran PR said in the project from an article named 'Three Hidden Ways Wheat makes you Fat' conclude that "Gluten is a real problem. But the problem is not just Gluten in fact there are 3 major hidden reasons that wheat product, not just gluten (along with sugar in its all forms) is the major contributor to obesity, heart disease, cancer.
2. P.R. Shewry and S.J. Hey said in the project from an article named 'Do we need to worry about eating wheat?' conclude that The health of more than a small proportion of the population will be improved by eliminating wheat or gluten from diet.

## Research Design-

### 1. Study Design: Exploratory study design which includes the

#### 1. Case study method, 2. Questionnaire

**2. Primary Data:** Peoples having signs and symptoms of the obesity and having BMI more than 25 will be selected from Yoga center, Ashta.

#### 1) Primary data:

10 randomly selected obese persons from the yoga centers in Ashta, are selected. The proposed diet chart was given to 10 peoples in yoga centers. The diet chart with exercise followed for 1 months and observation has been taken.

#### 2) Secondary data:

The related review material in the selected form Samhita, website, books, journal, etc.

## 3. Sampling method:

- a) Purposive sampling method respondents are selected.
- b) Purposing following all sign and symptoms and index of obesity.
- c) Location of study: Yoga centers in A, D.A.M.C. Ashta
- d) Statistical Methods: Measures of central tendency, Measures of variability, Paired t Test.

**5.Diet Chart:**

<b>Breakfast</b> 8.00Am-9.00Am	<b>Lunch</b> 12.00Pm-1.00Pm	<b>Mid-evening</b> 4.00pm-5.00Pm	<b>Dinner</b> 7.00Pm-8.00Pm
1 Plate <i>Poha/ Upama/ Methi Paratha /Ragi / kulath/ Idali/1Any fruit</i>	2Multigrain roti <i>/Bajari Roti/Jwari Roti</i> + 1 bowl <i>sabji</i> +1 bowl brown rice+1bowl Dal 1 glass buttermilk	<i>Peanut Chikki/</i> 1bowl sprouts / Milk/Fruits	2Multigrain roti <i>/Bajari Roti/Jwari Roti</i> + 1 bowl <i>sabji</i> +1 bowl brown rice+1bowl Dal along with veggie Salad

(Source :Primary Data)

<b>Aahar</b>	
<b>Pathya</b>	<b>Apathya</b>
<i>June dhanya</i> <i>Mug,Tur,Kulith,Dudhibhopla, Padwal, Methi, Karale</i> Leafy vegetables Salad-carrot,cucumber,beet,cabbage, Buttermilk, Honey+ Water	<i>Navin Dhanya</i> <i>Harbhaera, Watana, Chawli, Batate, Ratali, sabudana,</i> Dairy products Oily and spicy food, cold drinks, ice-cream, chocolate

(Source :Primary Data)

<b>Vihar</b>	
<b>Pathya</b>	<b>Apathya</b>
Get up early in the morning. Do regular exercise. Yogasan for weight Reduction: <i>Simhasana, jalandhara bandha, Adhomukha savasan, chaturanga dandasana, Ardhapincha mayurasana, Bhujangasana, Bharadvajsana Aradhamatsyendra. Naukasana</i>	To get up late in morning. Sedentary life, Watching TV ,Day sleep

(Source :Primary Data)

**Plan of work-**

- 1) Sample selection having symptoms of obesity.
- 2) Diet chart and proper exercise has been given i.e., Gluten free diet.
- 3) After 3 months, again case studies have been taken.
- 4) Clinical study has been done.
- 5) Case study method-

**Statistical Analysis:**

The collected data was properly classified, tabulated, analyzed. Other statistical methods were also be included wherever necessary.

**Pilot Study:****Case studies:**

Special case record Performa has been prepared.10 patients having signs and symptoms of obesity have been studied. The following observations have been found.

**Observations and results:****Table no.1:****Investigations with observational chart:**

Case no	Sex	Age	Height	Weight(Kg)			BMI(Kg/m <sup>2</sup> )		
				BT Weig ht	AT Weig ht	MR Of wt	BT BMI	AT BMI	MR Of BMI
01	M	35	162	88	82	3.5	33.5	31.25	3.4
02	M	30	158	78	70	5.4	31.2	28.04	5.8
03	M	38	155	80	75	3.2	33.3	31.22	3.2
04	M	33	160	78	72	4	30.5	28.13	4.04
05	M	40	157.5	86	80	3.6	30.2	27.25	5.1
06	F	29	162.5	90	85	2.8	34.1	32.19	2.8
07	M	42	150	70	66	2.9	31.11	29.33	2.9
08	F	45	155	65	60	4	27.06	24.97	4.01
09	M	47	145	60	57	2.5	28.54	24.03	8.5
10	F	25	163	72	68	2.8	27.10	25.59	2.8

(Source: Pilot Study)

**Table no 2:****Investigations with observational chart:****Classification of overweight and obesity by BMI (Kg/m<sup>2</sup>) (Asians criteria for obesity)**

	Obesity class	BMI(Kg/m <sup>2</sup> )
Underweight		<18.5
Normal		18.5-22.9
Overweight		23.0-27.9
Obesity	I	28.0-32.9
	II	33.0-37.9
Extreme obesity	III	>38

(Source: API Medicine )

**Case study Result:**

- Case Study 1:** Name: Raj guru Patil      Age: 29  
 Height: 162cm      Weight BT: 88kg      AT: 82kg  
**Opinion:**” I have spent my life embracing my curves, which separates me from thin people. But then I found a much easier way. I prefer wheat restricted diet with yogasana daily n I got amazing results.”
- Case Study 2:** Name: Ashish Kamble      Age: 30  
 Height: 158cm      Weight BT: 78 kg      AT: 70 kg  
**Opinion:**”I am salesman and because of this weight gain I couldn't do any work properly. I always got tired early. I tried this wheat free diet n strictly followed the exercise n Diet and see I reduced almost 8kg. Feeling better.”
- Case Study 3:** Name: Surabh Patil      Age:47  
 Height: 145cm      Weight BT: 60kg      AT: 57 kg  
**Opinion:**”I am a businessman and my lifestyle is almost sedentary. So I put on my weight very fast but this diet n exercise which I got from my trainer is very excellent. I am feeling much better now.
- Case Study 4:** Name: Vandana Shete      Age: 29  
 Height: 162.5cm      Weight BT: 90 kg      AT: 85 kg  
**Opinion:**” Hello, I am a housewife. I put on my weight after my delivery. I was very much tensed about my weight. But when I heard about such type of diet and exercise I was so excited for it and the results are here! Feeling good.”

- **Case Study 5:** Name: Disha Shah Age: 25

Height: 163cm Weight BT: 72kg AT: 68kg

**Opinion:** "Hi I am a college going student. Due to my overweight my friend used to tease me always. Then I tried this type of Diet did exercise regularly. And see the results are here! I am so excited about it and I am going to follow this rest of my life."

- **Case Study 6:** Name: Aniket Sarada Age: 42

Height: 150cm Weight BT: 70 kg AT: 66 kg

**Opinion:** "Hey, I am a primary teacher. There is no any kind of physical work in my profession so my weight was putting on. I was very much worried about it. When I heard about this Diet plan I thought it is impossible for me to take diet without wheat. But my trainer added some another food in my diet n I got amazing results of it. I am now doing daily yogasana and taking wheat restricted diet"

### Results:

Weight- Before treatment confidence interval lies in the range (Min 60kg to Max 90kg) .after treatment is reduces to the range (66kg to 85kg) with percentage reduction of in the interval (2.5 to 5.4)

BMI- Before treatment confidence interval lies in the range (Min 27.06 to Max 34.1) after treatment is reduces to the range (Min 24.03 to Max 32.19) with percentage reduction of in the interval (2.8 to 8.5)

From above observation table and case studies the review we got from the patients were positive and there are satisfied by the above results. They are feeling Free.

### Discussion:

Wheat is a staple food throughout the world and an important source of nutrients for many millions of people. However, the last few years have seen increasing concerns about adverse effects of wheat on health. So we had been selected this topic for research. In this study we got significant effect in weight loss with eliminating wheat in routine diet. So now we are decided to do wide research project on the same topic.

### Conclusion:

From above Review of literature the information we collected implanted in our area and we got better result as shown in observation table and result, which States significant effect in weight loss with eliminating wheat in routine diet.

### Scope of Study:

In this study we got significant effect in weight loss with eliminating wheat in routine diet. So anyone can do wide research project on the same topic.



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