

AN OBSERVATIONAL STUDY OF ASHTODOSHA OF ATISTHAULYA IN  
OVERWEIGHT ACCORDING TO CHARAKA SAMHITAAnand V. Kalaskar<sup>1</sup>, Ankeeta P. Dahiwale<sup>2\*</sup>, Shivani Bhavarekar<sup>3</sup> and Radha S. Khadakkar<sup>4</sup><sup>1</sup>M.D. Kayachikitsa –Vikriti Vigyan (BHU) Assoc. Professor SSAM Hadapsar, Pune.<sup>2,3,4</sup>MD Scholar, PG Department of Rog Nidan Evum Vikriti Vigyan, SSAM Hadapsar, Pune.

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## ABSTRACT

Overweight and Obesity are defined as an “abnormal or excessive fat accumulation” that presents risk to health.<sup>[1]</sup> Overweight is defined as Body mass index (BMI) of 25 to 29.9kg/m<sup>2</sup> and obesity as BMI of more than or equal to 30kg/m<sup>2</sup>. However overweight and obesity are not mutually exclusive, since obese persons are also overweight.<sup>[2]</sup> Overweight is the pre-obese state where the individuals are considered a risk for developing associated morbidities or diseases. BMI between 25 and 30 should be viewed as medically significant and worthy of therapeutic intervention, especially in the presence of risk factors that are influenced by adiposity, such as hypertension and glucose intolerance. According to classical *Ayurveda* text, *Atisthaulya* is one of the eight despicable described in *Charaka Samhita*.<sup>[5]</sup> *Atisthaulya* is a disease which is despised by all. *Acharya Charaka* has explained in detail regarding the disease and its *lakshana*'s which he mentioned as *Ashtodosha*. This study aims to study these *lakshana*'s and their presence in contemporary era in overweight individuals. This study will help in creating that not widely known awareness about Overweight individuals and the health risk they possess. As *Acharya Charaka* has mentioned the *Atisthool*a in the eight despicable, the overweight is also at risk to have health consequences.

**KEYWORDS:** *Sthaulya, Sthulam, Athisthaulyam, Medaswita, Atisthool*a, *Ashtodosha*.

## INTRODUCTION

Overweight and Obesity are defined as an “abnormal or excessive fat accumulation” that presents risk to health.<sup>[1]</sup>

Overweight is defined as Body mass index (BMI) of 25 to 29.9kg/m<sup>2</sup> and obesity as BMI of more than or equal to 30kg/m<sup>2</sup>. However overweight and obesity are not mutually exclusive, since obese persons are also overweight.<sup>[2]</sup>

However, in Asians, the cut-offs for overweight (>23kg/m<sup>2</sup>) and obesity (>25kg/m<sup>2</sup>) are lower than WHO criteria due to risk factors and morbidities.<sup>[3]</sup>

Overweight is the pre-obese state where the individuals are considered a risk for developing associated morbidities or diseases such as hypertension, high blood cholesterol, type 2 diabetes, coronary heart disease, other diseases.<sup>[2]</sup>

Hence, BMI between 25 and 30 should be viewed as medically significant and worthy of therapeutic intervention, especially in the presence of risk factors that are influenced by adiposity, such as hypertension and glucose intolerance.<sup>[4]</sup>

According to classical *Ayurveda* text, *Atisthaulya* is one of the eight despicable described in *Charaka Samhita*.<sup>[5]</sup>

A person is *Atisthaulya* due to excessive increase of fat and muscle, has pendulous buttocks, abdomen and breasts and suffers from deficient metabolism and energy.<sup>[6]</sup>

*Atisthaulya* person gets affected by diabetes, skin eruptions, fever, rectal fistula, abscess, diseases of *vata*dosha, and such other diseases and dies; all his diseases become very powerful due to obstruction.<sup>[7]</sup>

In *Atisthaulya*, *Acharya Charaka* has described eight *lakshana*'s that are called as *Ashtodosha*. The eight *Ashtodosha* given are<sup>[8]</sup>

- *Aayushohrasa* (Diminution of life)
- *Javoparodh* (Lack of enthusiasm)
- *Kricchavyavayta* (Pain during sexual intercourse)
- *Daurbalya* (Fatigue)
- *Daurgandhya* (Bad odour from body)
- *Swedabadh* (Excessive perspiration)
- *Kshudatimatra* (Excessive hunger)
- *Pipasatiyogat* (Excessive thirst)

According to ICMR-INDIAB study 2015, prevalence rate of obesity and central obesity are varying from 11.8% to 31.3% and 16.9%–36.3% respectively.

#### AIM AND OBJECTIVES

To observe the *Ashtodosh lakshana's* mentioned in *Atisthauilya* in Charaka samhita in overweight individuals.

#### Charaka Samhita<sup>10</sup> (1000 BC-400 AD)

It has been classified under, *Ashtau Ninditiya Purusha'*. Acharya Charaka has explained the definition of

#### Nirukti<sup>[11]</sup>

स्थूल + ष्यत्र = स्थौल्य

स्थूल - द् - हचे (स्थूलयति-ते-अतिस्थूलत्-त्) - श्रीवाचस्पत्यम्

The word 'Sthoola' is derived from 'Sthu' with suffix 'Ach' which stands for thick or solid or big or bulky.

#### Definition<sup>[12]</sup>

मेदो मांसतिवृद्धत्वाच्चल स्फिग्दस्तनः ।

अयथोपचयोत्साहो नरोऽतिस्थूल उच्चते ॥

- च.सू. 21/9

The excessive deposition of *Meda* and *Mamsa Dhatu* in the body specially at *Sphika* (buttocks), *Udara* (belly) and *Stana* (breast) resulting in their increased size and abnormal movement along with loss of enthusiasm (*Utsaha*). The person having this kind of physical features is called as *Atisthula*.

#### Definition of meda

*Sthauilya* is a *Dushya* dominant *Vyadhi*, *Meda* plays a major role in pathogenesis of *Sthauilya*. Therefore, it is

#### Moola of medovaha strotasa<sup>[12,13]</sup>

Acharya	Moola of Medovaha Strotasa	
Acharya Charaka	Vrikka	Acharya Charaka
Acharya Sushrutu	Vrikka	Acharya Sushrutu

#### MATERIAL AND METHODS

Study was conducted in two phases

##### A) Literary study

Reference of Literature review of *Atisthauilya*, *Ashtodosh*, Overweight and Obesity in modern view.

Methods -Sample size -65.

Type of study -Observational, Cross-sectional.

The individuals with BMI >25, Waist circumference >80 in females, waist circumference >94 in males, Waist to hip ratio  $\geq 0.81$  in females and Waist to hip ratio  $\geq 0.96$  in males were included in the study. The *Ashtodosh* were assessed with the help of the questionnaire and case record form. The data obtained was arranged in master chart to obtain observations and results.

*Sthauilya*, its etiology, its pathophysiology, its cardinal symptoms, *Ashtodosh* of *Sthauilya*, complications of *Sthauilya* due to its ignorance in detail.

#### Ayurvedic review of disease

##### Sthauilya

*Sthauilya* has been described vastly in classical *ayurvedic* texts. Some references can be found in the mythological form but the details of disease are explained in the *Brihatrayi* viz. *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Sangraha* and in *Laghutrayees* viz. *Sharangdhara*, *Bhavaprakash*, *Yogratnakar*.

very important to know different aspects of *Meda*, which is described as below.

Literally, the word *Meda* is derived from root '*Jhimida Snehana*' (वाचस्पियम्), which stands for *sneha*, fat, oil etc. It means the substance, which has *Snigdhatva* property, is called *Meda*. There are many oily substances in the body like *Vasa*, *Majja* etc.

#### B) Observations and Results

This section of the study shows the data representation in form of tables, graphs, pie charts. The representation of data was used to reach the interpretations.

#### Method of selection of study subjects

- I. Inclusion criteria
  - i. Age group-participants with age of 18-80 years.
  - ii. Gender-Both male and female's participants were selected irrespective of caste, religion, occupation and socio-economic status.
  - iii. A participant with general obesity having BMI more than 25kg/m<sup>2</sup>.
  - iv. Waist circumference  $\geq 94$  cm in males and  $\geq 80$  cm in females.
  - v. Waist hip ratio  $\geq 0.96$  in males and more than and equal to  $\geq 0.81$  in females.

## II. Exclusion criteria

- i. Pregnancy and Lactation.
- ii. Patients of PCOS and other endocrinal disorders.

In classical *Ayurvedic* texts, various *acharyas* have mentioned many etiological factors of *Sthaulya Roga*. The hereditary component (*Bijadosha*) besides *Aharatmaka*, *Viharatmaka* and *Manasa* factors in causation of *Sthaulya* have been described by *Acharya Charaka*.

**Nidana (Causative factors)**

As per *Charaka Samhita*, *Sthaulya* is *Kaphaj Nanatmaj Vikar*. Considering *Sthaulya*, *Meda Dhatu* is the main *Dushya* along with *Rasa Dhatu* as per *Acharya Sushruta*.

1.	<i>Aaharaj Hetu</i> →	Dietary
2.	<i>Viharaj Hetu</i> →	Behavior
3.	<i>Manas Hetu</i> →	Psychogenic
4.	<i>Sahaj Hetu</i> →	Genetic

**Purvarupa (Premonitory symptoms)**

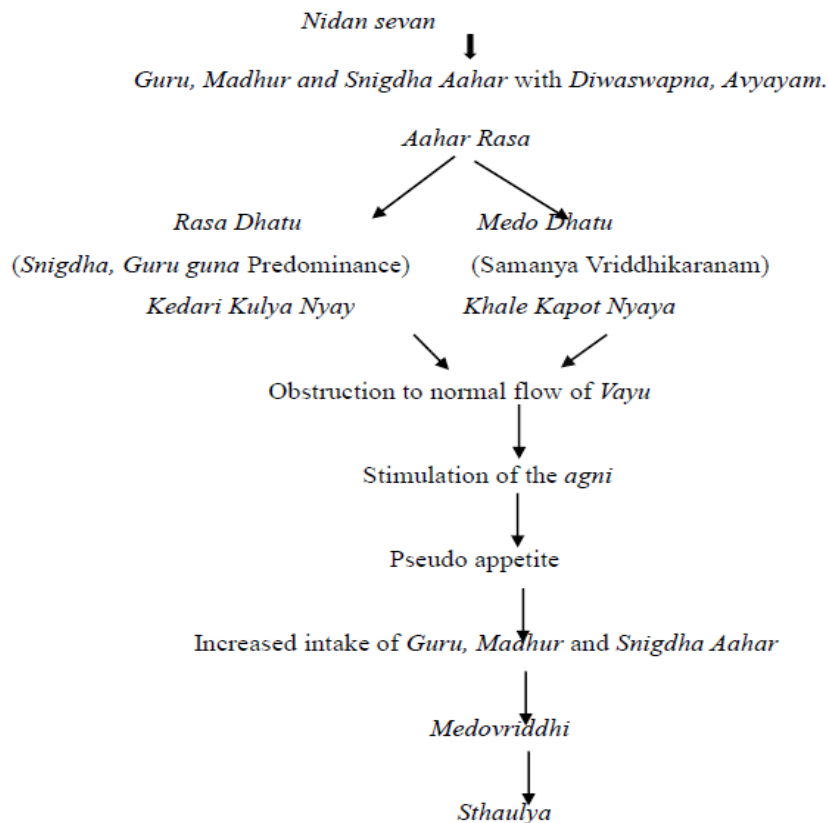
*Purvarupa* of *Sthaulya* has not been specifically mentioned by the *ayurvedic texts*.

Symptoms of *Medovaha Srotodushti* are described as *Purvaruapa* of *Prameha*, which is also considered as *Purvarupa* of *Sthaulya*.

**Rupa (Signs and Symptoms)**

<b>Rupa</b>	<b>Charaka</b>	<b>Sushruta</b>	<b>A.S.</b>	<b>A.H.</b>	<b>Mn</b>
<i>Chala Sphika</i>	+	-	+	+	+
<i>Chala Udara</i>	+	-	+	+	+
<i>Chala Sthana</i>	+	-	+	+	+
<i>Udara parshva Vriddhi</i>	-	+	-	+	+
<i>Anutsaha</i>	+	-	+	-	+
<i>Aalasya</i>	-	-	+	-	-
<i>Moha</i>	-	-	-	-	+
<i>Javoparadha</i>	+	-	-	-	-
<i>Shrama</i>	-	-	-	+	-
<i>Alpa Bala</i>	-	-	+	-	-
<i>Daurbalya</i>	+	-	+	-	-
<i>Alpa Prana</i>	-	+	+	-	+
<i>Aayushohrasa</i>	+	-	+	-	-
<i>Krichha Vyavaya</i>	+	-	-	-	-
<i>Alpa Vyavaya</i>	-	+	-	-	+
<i>Daurgandhya</i>	+	+	+	-	+
<i>Swed-Abadha</i>	+	-	+	-	-
<i>Kshudatimatra</i>	+	+	+	-	+
<i>Pipasatiyoga</i>	+	+	+	-	+
<i>Nidradhikya</i>	-	+	+	-	+
<i>Kshudra Swasa</i>	-	+	+	+	+
<i>Gadgadvani</i>	-	+	+	-	-
<i>Gatrasada</i>	-	+	-	-	+
<i>Saukumarata</i>	+	+	-	-	-

*Samprapti*



**C) Modern review of obesity**

**Etymology of the word**

The word Obesity comes from mid-17th century, from Latin word *obesus* „having eaten until fat“, from *ob-* „away, completely“ and *es* (past participle of *edere* „eat“).

**Definition of obesity**

Obesity is defined as an excess of adipose tissue that imparts health risk, a body weight of 20% excess over

ideal weight for age, sex and height is considered a health risk.<sup>[14]</sup>

**Classification of obesity**

Obesity can be classified on the different basis like,

**1) Based on BMI**

Proportion of height and weight is measured by BMI.

It is validated measure of the nutritional status. It has high correlation with independent measures of total body fat for adults.

Body mass index is calculated by using the formula

$$BMI = \text{Weight in Kg} / \text{Height in metres}^2$$

Category	BMI
Overweight	25 - 29.9 Kg/m <sup>2</sup>
Obesity (Class I)	30 - 34.9 Kg/m <sup>2</sup>
Obesity (Class II)	35 - 39.9 Kg/m <sup>2</sup>
Obesity (Class III)	>40 Kg/m <sup>2</sup>

**2) Based on anatomical distribution of fat**

- i. Android/Central/Apple shaped/Abdominal Obesity: Central accumulation of visceral and subcutaneous fat in abdominal region above waist.
- ii. Gynecoid/Peripheral/Pear shaped Obesity: Accumulation of subcutaneous fat around hips and buttocks i.e., below waist.

**Methods of measurement**

- Case record form (CRF)
- Questionnaire

**Data collection tool**

Weighing machine: Analog Equinox Medical Weighing Scale, Manual, Maximum Capacity: 130 Kg, was used to measure the weight of individuals to estimate the BMI.

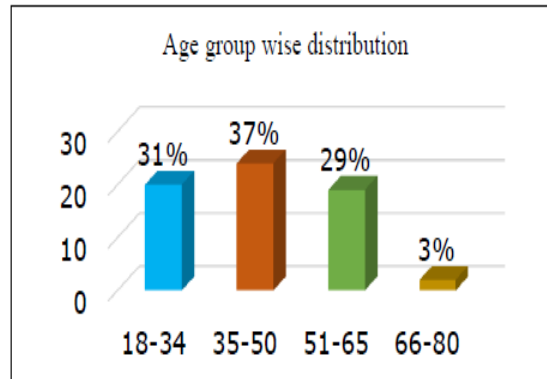
Measuring tape: A simple measuring tape was used for measuring Waist circumference, Waist hip ratio.

### OBSERVATIONS AND RESULT

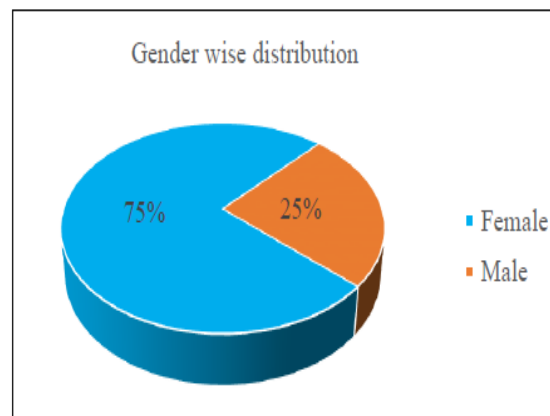
The observational study conducted was completed by induction of 65 individuals by purposive method. Their

data was clinically obtained through data tools, CRF, Questionnaire and was distributed into master chart accordingly. The data collected is statistically represented and analyzed through graphs, bar and pie diagrams. The observations and results are concluded from the data.

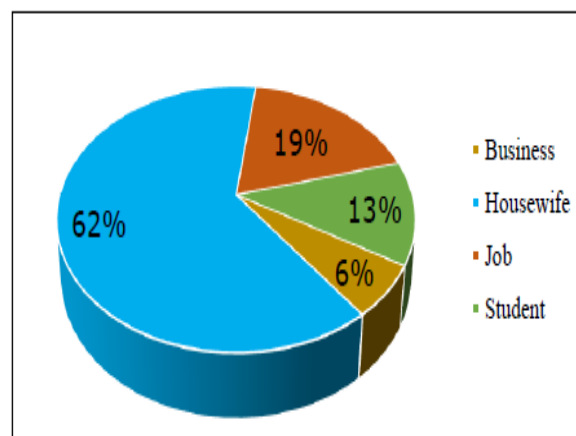
#### 1. Age wise distribution



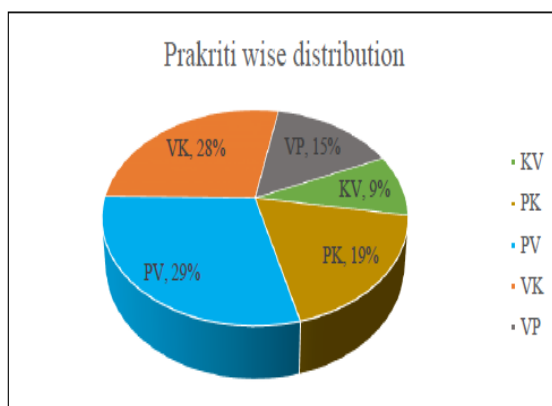
#### 2. Gender wise distribution



#### 3. Occupation wise distribution

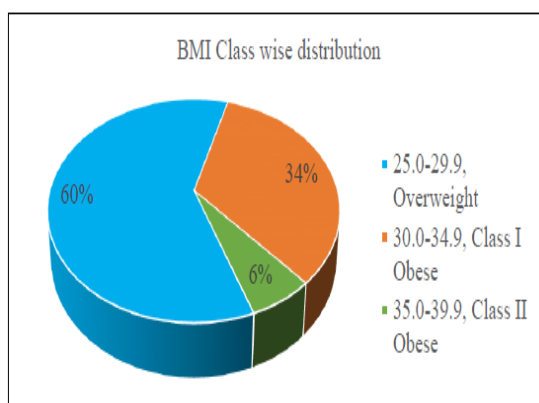


#### 4. Prakriti wise Distribution



#### 5. BMI wise distribution

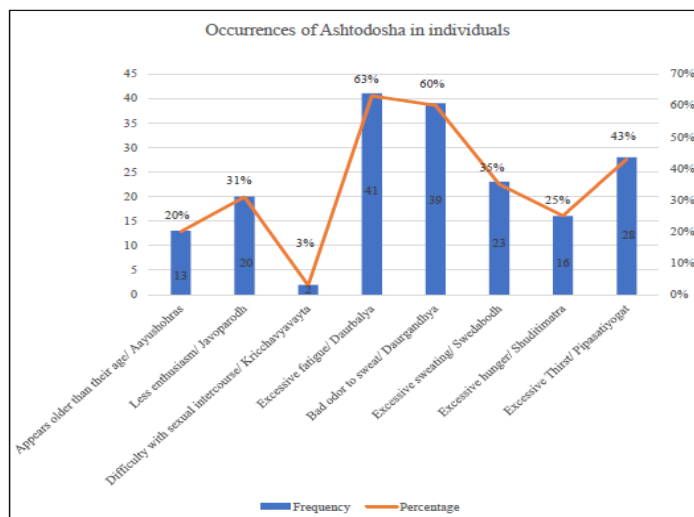
Class of BMI	Frequency	Percentage
25.0-29.9, Overweight	39	60%
30.0-34.9, Class I Obese	22	34%
35.0-39.9, Class II Obese	4	6%
<b>Total</b>	<b>65</b>	<b>100%</b>



#### 6. Occurrence of Ashtodoshas in individuals

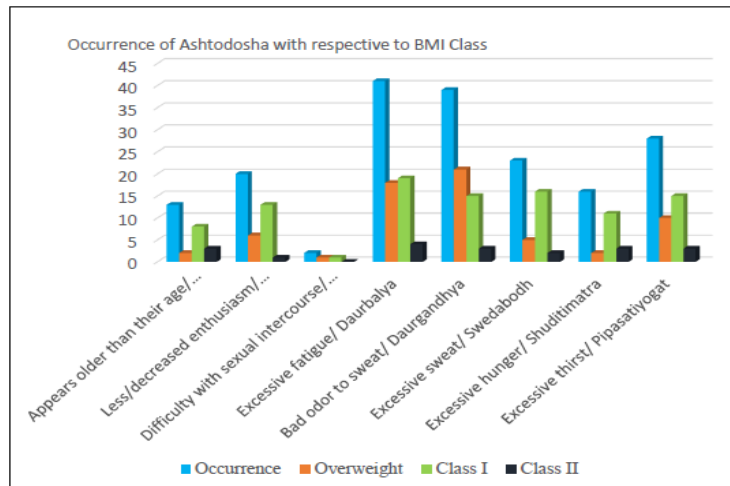
Incidences of Ashtodoshas in individuals

Sr. No.	Occurrences of Astaudosha's	Frequency	Percentage
1	Appears older than their age/ <i>Aayushohras</i>	13	20%
2	Less enthusiasm/ <i>Javoparodh</i>	20	31%
3	Difficulty with sexual intercourse/ <i>Kricchavyavayta</i>	2	3%
4	Excessive fatigue/ <i>Daurbalya</i>	41	63%
5	Bad odor to sweat/ <i>Daurgandhya</i>	39	60%
6	Excessive sweating/ <i>Swedabodh</i>	23	35%
7	Excessive hunger/ <i>Shuditimatra</i>	16	25%
8	Excessive Thirst/ <i>Pipasatiyogat</i>	28	43%



7. Ashtodoshas with respect to BMI class

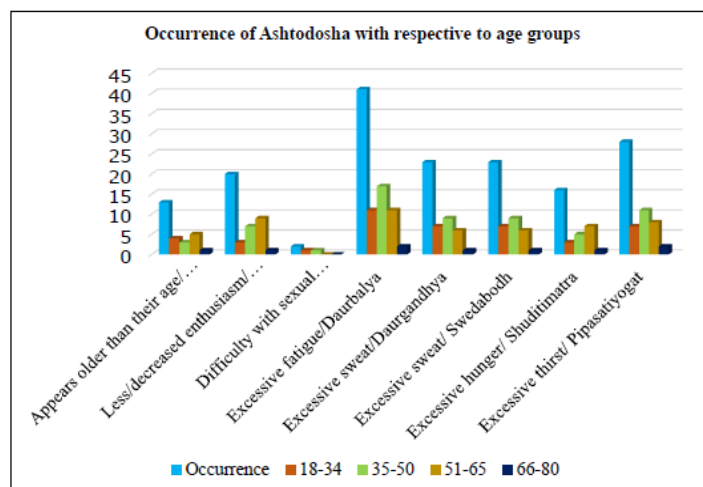
Ashtodoshas	Occurrence	Overweight		Class I		Class II	
		Occurrence	Percentage	Occurrence	Percentage	Occurrence	Percentage
Appears older than their age/ Aayushohras	13	02	15.38%	08	61.53%	03	23.07%
Less/decreased enthusiasm/ Javoparodh	20	06	30%	13	65%	01	5%
Difficulty with sexual intercourse/ Kricchavyavayta	02	01	50%	01	50%	0	0
Excessive fatigue/ Daurbalya	41	18	43.90%	19	46.43%	04	9.75%
Bad odor to sweat/ Daurgandhya	39	21	53.84%	15	38.46%	03	7.69%
Excessive sweat/ Swedabodh	23	05	21.43%	16	69.56%	02	8.69%
Excessive hunger/ Kshudatimatra	16	02	12.5%	11	68.75%	03	18.75%
Excessive thirst/ Pipasatiyogat	28	10	35.71%	15	53.57%	03	10.71%



**8. Ashtodoshas with respect to age groups:**

Data showing occurrences of Ashtodoshas with respect to age groups.

Ashtodoshas	Occurrence	18-34		35-50		51-65		66-80	
		Occurrence	Percentage %	Occurrence	Percentage %	Occurrence	Percentage %	Occurrence	Percentage %
Appears older than their age/ Aayushohras	13	4	30.76%	3	23.07%	5	38.14%	1	7.69%
Less/decreased enthusiasm/ Javoparodh	20	3	15%	7	35%	9	45%	1	5%
Difficulty with sexual intercourse/ Kricchavyavayta	02	1	50%	1	50%	0	0	0	0
Excessive fatigue/ Daurbalya	41	11	26.82%	17	41.46%	11	26.82%	2	4.87%
Excessive sweat/ Daurgandhya	23	7	30.43%	9	39.13%	6	26.08%	1	4.34%
Excessive sweat/ Swedabodh	23	7	30.43%	9	39.13%	6	26.08%	1	4.34%
Excessive hunger/ Shuditimatra	16	3	18.75%	5	31.25%	7	43.75%	1	6.25%
Excessive thirst/ Pipasatiyogat	28	7	25%	11	39.28%	8	28.57%	2	7.14%





## DISCUSSION

In the present study, the Ashtodosha of the Atisthaulya were assessed in Overweight individuals.

As said in Ashtonindita, the eight despicable, the Atisthaulya person gets affected by diabetes, skin eruptions, fever, rectal fistula, abscess, diseases of *Vatadosha*.<sup>[7]</sup>

### Following are the findings from the data

#### 1. Age

In age wise distribution of individuals included from 18-80 years of age, maximum i.e., 37% belong to category of 35-50 years of age followed by 31% and 29% that contributes to 18-34 years and 51-65 years respectively. And the least that is 3% were in 66-80 years of age group.

#### 2. Gender

The gender wise distribution denotes 75% of individuals included were females to 25% of individuals were male. As per overall patient enrollment data of the hospital suggest more visits by female individuals.

#### 3. Occupation

The occupational status of 65 individuals in this study shows, maximum 62% of individuals are housewives, followed by 19% of individuals are doing a job at companies and the least 6% individuals belong to two categories that are student and business owners.

#### 4. BMI

The study conducted in 65 individuals, where the BMI was considered as the inclusion criteria. Maximum 60% individuals belonged to overweight (25.0-29.9) category of the BMI class. 34% belonged to class I Obese category (30.0-34.9) and 6% belonged to class II Obese category (35.0-39.9).

#### 5. Ashtodosha

By the observations made in this study, the most found *Ashtodosha* in the study is excessive fatigue that denotes the *Daurbalya* in the individuals.

And the least observed *Ashtodosha* is minimum 3% that denotes pain/difficulty with sexual intercourse that is called as *Kricchha vyavayata*.

#### 6. Aayushohras (Appears older than their age)

The gender wise distribution denotes 75% of individuals included were females to 25% of individuals were male. As per overall patient enrollment data of the hospital suggest more visits by female individuals.

This *Ashtodosha* is found to be present in 13 out of 65 individuals, that records 20% of the individuals having *Aayushohras*.

#### 7. Javoparodh (Decreased enthusiasm)

It was observed in 20 out of 65 individuals. 31% of the individuals showed presence of *Javoparadh*.

#### 8. Kricchha-vyavayata (Pain/Difficulty with sexual intercourse)

This was the least found *Ashtodosha* among all. It only contributes 3% of total individuals observed in the study.

#### 9. Daurbalya (Excessive fatigue)

This *Ashtodosha* is most prominently found in 41 individuals out of 65, i.e., present in 63% of the total individuals.

#### 10. Daurgandhya (Bad odor to sweat)

This is the second highest found *Ashtodosha* after *Daurbalya*. 39 out of 65 individuals were observed to have bad odor to sweat that denote *Daurgandhya*.

#### 11. Swedabodh (Excessive perspiration)

This *Ashtodosha* is present in 23 out of 65 individuals observed in this study, that is 35% of the individuals have excessive thirst.

#### 12. Kshuditimatra (Excessive hunger)

This is found to be present in 16 out of 65 individuals, i.e., 25% have *Atikshudha*.

#### 13. Kshudatimatra (Excessive hunger)

This is found to be present in 16 out of 65 individuals, i.e., 25% have *Atikshudha*.

#### 14. Atirishna (Excessive thirst)

This *Ashtodosha* is found to be present in 28 out of 65 individuals, that records 43% of the individuals having excessive thirst.

## CONCLUSION

In this study, the *Ashtodosha* of the *Atisthaulya* are assessed in the overweight in 65 individuals.

After assessing the data collected and evaluating the results following conclusions can be noted.

- After reviewing *Ayurveda* and modern literatures, it shows similarities between *Atisthaulya* and Obesity.
- The individuals included in the study, mainly visited hospital for other complaints, not associated with *Ashtodosha*. Some examples are like *sandhishoola*, *sandhigata vata*, *vatarakta*, hypertension, secondary amenorrhea, diabetes mellitus, skin eruptions etc.
- Although the complaints they presented, are the effects of *sthoolta* on their bodies i.e., mentioned by *acharya charaka*.
- The individuals in study presented with other complaints yet manifested *Ashtodosha lakshana*.
- Very few individuals visited the hospital with the chief complaint of weight gain, excessive sweating, decrease in enthusiasm.
- Only some individuals were aware about their weight gain and its effects. Many showed ignorance

about the effects of Overweight and Obesity on their body.

- This shows the lack of awareness among the people about the Overweight and Obesity.
- This study will help to promote awareness about the impact of Overweight and Obesity in the population. The diseases which mostly are found as an effect of Overweight and Obesity are Hypertension, Osteoarthritis, Diabetes mellitus, Hypothyroidism, Depression.
- All the disease mentioned are difficult to be reversed and cured completely. They require long term medications with substantial complications later in life.
- By controlling the weight of an individual with significant interventions, the early onset of these diseases can be prevented.
- Majority of the *Ashtodoshawere* present in the middle age group of 35-50 years age group.
- Mostly affected gender is females, who are housewives.
- The BMI category that was affected most was Class I Obesity, secondary to that the Overweight category was also found to be affected by *Ashtodosh*.
- All the above observations and results are suggestive of presence of *Ashtodosh* of *Atisthaulyain* Overweight individuals.

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