“ASSESSMENT OF OBESITY AND ITS ASSOCIATION WITH SHARIR PRAKRUTI.”

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ABSTRACT

According to WHO, obesity means an abnormal or excessive amount of fat accumulation that can impair a person’s health. Adiposity means the quality of state being fat, i.e. an abnormal increase of fat in subcutaneous connective tissues, i.e. obesity. A person may be considered obese if he/she has a Body Mass Index (BMI) over 30. According to Ayurveda every individual is unique. Not only each individual has different size, and shape but also different physiological and psychological characteristics. Ayurveda principally refers to Prakruti of human as ‘Dosha-Prakruti’ or ‘Sharir-Prakruti’. In this study 300 volunteers between the Age group 17-22 yrs were selected. B.M.I. was calculated by Standard formula. Assessment of Sharir Prakruti was done with the help of AYUSOFT C-DAC proforma. In this study it was observed that Kapha Pradhan Pitta Prakruti individuals come under over weight, Vata Pradhan Prakruti individuals were underweight.

KEYWORD: Obesity, Sharir Prakruti, BMI, overweight, underweight.

INTRODUCTION

As per today’s modern world, unhealthy and stressful life style and wrong eating habits have lead to a deadly condition which effects our healthy well being and becomes a cause for various disease which effects the longevity of life.
Maintaining a healthy weight is an extremely important part of overall health. Obesity increases the likelihood of various diseases and conditions, particularly cardiovascular diseases, type 2 diabetes, obstructive sleep apnea, certain types of cancer, osteoarthritis and depression.[2][3]

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have a negative effect on health.[1] People are generally considered obese when their body mass index (BMI), a measurement obtained by dividing a person's weight by the square of the person's height, is over 30 kg/m², with the range 25–30 kg/m² defined as overweight.[1]

Obesity is most commonly caused by a combination of excessive food intake, lack of physical activity, and genetic susceptibility.[1][4] A few cases are caused primarily by genes, endocrine disorders, medications, or mental disorder.[5]

Diet quality can be improved by reducing the consumption of energy-dense foods, such as those high in fat and sugars, and by increasing the intake of dietary fiber.[1] Medications may be taken, along with a suitable diet, to reduce appetite or decrease fat absorption.[6]

Ayurveda is an ancient science which deals with every aspect of human life. The term Ayurveda; Ayu means life, Veda means knowledge.

Prakruti deals with some Physical, Mental, Sensory, Motor and Spiritual character of an individual. This constitution comprises of both “physical body” as well as “mental body” Prakruti means “nature”or natural constitution of the human body. ‘Pra’ means the ‘beginning’ or ‘source of origin’ and ‘kruti’ means ‘to form’. Put together Prakruti means ‘natural form’. Prakruti word derived from ‘Prakarotiiti. Prakruti means manifestation of special characteristics due to predominance of Doshas (Vata, Pitta and Kapha the functional component of body), & in these Prakruti indicates predominance of specific Dosha in a human being. There are other factors which also determine the constitution of a body in minor way.[7] Charaka has mentioned several additional factors which determine Prakruti such as nature of the season, condition inside the uterus, food of mother, during pregnancy, other regimens adopted by mother during pregnancy, Sukra-Sonita (sperm-ovum) of father and mother and Mahabhuta Vikara. 3 These factors get afflicted with one or more of the Doshas which are dominantly associated with the above mentioned factors. Therefore,
Prakruti of some people is dominated by Vata, some others by Pitta, some others by Kapha and some others by the combination of two Doshas and some cases, equilibrium are maintained by Dosha.\[8,9\] Although all these factors mentioned above play an important role in determination of Prakruti.

**MATERIALS AND METHODOLOGY**

- **MATERIAL**
  - The literary work done with the help of ancient Ayurveda texts as well as modern literature in connection Obesity, Prakruti.
  - B.M.I Standard formula
  - B.M.I= mass(kg)/height(m)²

- **METHODOLOGY**
  - A 300 volunteers between the Age group 17-22 yrs were selected for study.
  - Assessment of Sharir Prakruti & Dhatu Sarata of 300 individuals was done with the help of AYUSOFT C-DAC performa.
    - (Centre for development of advanced computing-A scientific society of the Ministry of communications and information technology, govt. of India)
  - Assessment of B.M.I was done with the help of B.M.I formula manually.
  - Statistical Analysis was done with the help of Chi-Square Test.

**Inclusion Criteria**

- Students of Age:-17-22 years were healthy, individuals included in this study.
- Gender:- Male and Female.

**Exclusion Criteria**

- Subjects suffering from diseased induced Obesity were excluded.
- Suffering from major physical and psychological illness.
- Subject not ready to sign the consent & unable to comply with the protocol.
RESULT AND DISCUSSION

Chi-Square test for Association.

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>104.146</td>
<td>35</td>
<td>0.000</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>113.027</td>
<td>35</td>
<td>0.000</td>
</tr>
<tr>
<td>Linear-by-Linear</td>
<td>54.712</td>
<td>1</td>
<td>0.000</td>
</tr>
<tr>
<td>Association</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>300</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To test the association between BMI and Sharir Prakruti we have used Chi-Squared test. From above table we can observe that P-Value is less than 0.05 hence we conclude that there is significant association between B.M.I. and Sharir Prakruti. Further we can observe that B.M.I is more in Kapha Prakruti Individuals while Less in Vata Prakruti Individuals.

Correlation of B.M.I with Sharir Prakruti.

1. Correlation of Vata prakruti with BMI.

<table>
<thead>
<tr>
<th>Vata</th>
<th>BMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>-0.400*</td>
</tr>
<tr>
<td>P-Value</td>
<td>0.000</td>
</tr>
<tr>
<td>N</td>
<td>300</td>
</tr>
</tbody>
</table>

Above table shows that, there is negative correlation of Vata prakruti with BMI. That is as vata prakruti increases BMI decreases and Vice versa.

2. Correlation of Pitta prakruti with BMI.

<table>
<thead>
<tr>
<th>Pitta</th>
<th>BMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>-.048</td>
</tr>
<tr>
<td>P-Value</td>
<td>.405</td>
</tr>
<tr>
<td>N</td>
<td>300</td>
</tr>
</tbody>
</table>

Above table shows there is no significant correlation of Pitta Prakruti with BMI.

3. Correlation of Kapha % with BMI.

<table>
<thead>
<tr>
<th>Kapha</th>
<th>BMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>.582**</td>
</tr>
<tr>
<td>P-Value</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>300</td>
</tr>
</tbody>
</table>

Above table shows that, there is positive correlation of Kapha prakruti with BMI. That is as Kapha prakruti increases BMI increases and Vice versa.
• **DISCUSSION**

As per today’s modern world, unhealthy and stressful life style and wrong eating habits have lead to a deadly condition which effects our healthy well being and becomes a cause for various disease like Obesity.

Prevention is better than Cure. The person suffering from Obesity or prone to the obesity should be encouraged to develop a healthy eating habit and to avoid the food with high calories, high sugar. Increase in B.M.I. causes a health problems.

According to Charak Vimansthan (Ch.Vi 8/108) due to properties like Rough, dry, light of vata the person body is lean thin So they are less likely Vurnerable towards Obesity.

Statistically it is also proved that Vata person comes under Low B.M.I.

According to Charak Vimansthan (Ch.Vi 8/98) due to properties like oily or unctuousness, heavy, stable the body become round and Plump, due to Picchla guna their is firmness and Compactness in joints.

According to Ashtanga Hrudaya(Ash.hr.sha 3/96)the Kapha Prakruti Person have well-kint joint and muscles, big and elevated chest.

They are more Vulnerable towards Obesity due to lazy attitude and liking sedentary life style.

Statistically it is also Proved that Kapha Pradhan Person have high range of B.M.I.

Literary study shows that Yoga and Pranayam are useful to maintain the health, So it must be studied further experimentally.

**CONCLUSION**

• In this study it was observed that Maximum Kapha Pradhan Pitta Prakruti individuals come under over weight, statistically it is proved in which it is observed that 41% are of Kapha Pradhan Pitta Prakruti.

• As the P value was less than 0.05 hence it is concluded that there is significant association between Kapha Pradhan Prakruti with B.M.I.

• In this study it was observed that Vata Pradhan Prakruti individuals are underweight and it is also proved Statistically.
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