AYURVEDA AND YOGA: A SMART CHOICE FOR OBESITY

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ABSTRACT

Obesity is recognised as a disorder of Medodhatu in Ayurveda. It is a metabolic disorder where anabolism dominates catabolism. Agni i.e. Dhatwagni plays a key role in the pathogenesis of Sthaulya (obesity). Considering the limitations of Western medicine in the management, there is an obvious upheaval of interest in developing alternative systems of medicine like Ayurveda, Yoga and Naturopathy etc. for effective management. The concept of ‘medodhatu’ metabolism in Ayurveda and preventing and managing Sthaulya and its complications are in detail in the following paper.

KEYWORDS: Obesity, Sthaulya, Medodhatu, Agni, Anabolism and Catabolism.

INTRODUCTION

Obesity (Sthaulya) is now recognised as a major threat to public health and is in fact a worldwide epidemic. Obesity is now increasing at an alarming rate among the children and youth in Asia for the past three decades due to rapid mechanisation of the society and the influence of Western culture. Data from two NHANES surveys reveal that prevalence obesity has tripled in the last three decades as compared to the mid-seventies. This increasing rate raises concern because of its implications on general health.

Obesity is a complex, multifactorial, chronic disorder of nutrition and metabolism. It is a graded under the one of the top prior risk factors in the pathogenesis of Diabetes, Hypertension, CVA, CAD, CRF, etc. and poses a great challenge to the physicians in general
practice. It has been the experience of many physicians that its management for a long term, steady control is not satisfactory. The available modern drugs only delay the onset of the complications rather than arrest them. In view of of the above limitations, there has been obvious upheaval of interest in the development of Alternative Systems of medicine like Ayurveda, Homeopathy and Naturopathy etc. for effective management. The boomerang created by “Baba Ramdev Mission of Yoga and Ayurveda” in the last three years has opened new vistas before the world and widened the scope of life sciences like Yoga and Ayurveda in the better understanding of the disease management. Moreover it is latest coming trend of Medicine to include Yoga and ‘Satvavajaya’ like therapies of Ayurveda in management of chronic and incurable conditions. A short glance on the concept and management of obesity (sthaulya) in Ayurveda reveals the keen insight of our ancient scholars regarding the understanding of the health and disease.

Etiopathogenesis

Sthaulya is a complex and chronic anabolic disorder of ‘medodhatu’ metabolism. It has been recognised as a ‘Kaphaja Nanatmajavikara’[1] ‘Santarpananimittajavyadhi’[2], ‘Brimhanajanyavyadhi’[3], Rasapradoshajanyavikara[4] and as a vitiated ‘Medodhatujanyavyadhi’[5] by all the classics.

Medas is one of the seven important tissue elements that support life. The food consumed is first subjected to ‘Jatharagnipaka’ which breaks into finer and uniform particles. The final product is acted upon by ‘Bhutagni’ which convert the heterologous particles into homologous substances and the whole is released into the general circulation. The circulating blood carrying the nutrients are taken up by respective dhatus and undergo ‘Dhatwagnipaka’ to nourish the Sthayidhatus. The waste products (malas) generated is eliminated finally. Any disturbance viz hyper or hypo-functioning at the level of Dhatwagni results in the over nourishment (anabolism) or undernourishment (catabolism) of the tissues respectively. The process of anabolism and catabolism go uninterruptedly in the body maintaining a perfect equilibrium in the physiological state. The process of anabolism dominates in the growing age (Kapha predominates) i.e. child and adulthood while catabolism in the elderly (Vata predominates). When the anabolism at Medodhatu exceeds the physiological limits abnormal accumulation occurs which may either be generalised or localised as appreciated in Sthaulya. There is a great relevance of the aetiological factors described in Sthaulya with that of Western Medicine.[8]
**Food Habits:** guru, snigdha, madhura and sleshmalaharadrayas (high calorie and Junk foods, Colas and other soft drinks, alchohole etc.)

**Life style:** lack of physical activity, sedentary lifestyle, overeating(adhyasana), day sleep

**Psychological factors:** elated and joyful moods i.e. indulging in parties, disco etc.

All the above factors are similar with the qualities of Kapha and Medodhatuvizdraya, guna and karma samanya according to the principle “Sarvadasarvabhavanam Samanyam Vridhi Karanam and Samayam Ekawakaram”[9] and hence promote the excess formation and accumulation of medodhatu. This is in accordance with the aetiology of modern science.

**Clinical Features**[10,11]

- Sagging of abdomen, breasts, heavy thighs and hips
- Kshudraswasa: dyspnoea on effort
- Pipasa: excess thirst
- Kshut: voracious appetite
- Swapna: excess sleep
- Sweda and gatradaurgandya: excess sweating and bad odour
- Gatrasada: easy fatigue
- Sarvakriyasusamartha: incapable to carry on any activity

All the above features are very much appreciable in an obese individual.

**Complications**[12,13]

- Alpaprana: decreased life span
- Pramehapidika: diabetic boils/ carbuncle
- Jwara: fever/sepsis due to easy invasion of pathogens
- Bhagandara: fistula-in- ano
- Vidradhi: recurrent abscess formation
- Vatavikaras: neurological deficits (C.V.A., C.A.D, M.I, etc.)

Obesity that is secondary to some underlying pathology like Hypothyroidism, ACTH insufficiency, etc. can be reversed by correcting the underlying pathology. Obesity that runs in families is incurable as there is a defect is at gene level which is inherited. It is said in Ayurveda that the beejaswabhava determines the physique and the mental abilities of an
individual.\textsuperscript{14} Chakrapani in his commentary further substantiates it that if parents are obese, the offspring has a tendency to be obese.

Textual Management
Many formulations are described in Ayurveda and few of them regularly used in clinical and daily practice are\textsuperscript{15}:

- Triphalakwatha with madhu
- Takrarestaprayoga
- Shilajatu with Agnimatha
- Amritadyaguggulu
- Navakguggulu etc

Extensive research has been carried on the ‘lekhaniyamahakashaya’ group of drugs to evaluate their efficacy in obesity and dyslipidaemia. List of the drugs approved by CCIM. As hypo-lipidaemic agents.

- Guggulu : Commiphoramukul
- Lasuna : Allium sativum
- Vacha : Acoruscalamus
- Haritaki : Terminaliachebula
- Amalaki : Phyllanthusemblica
- Pushkarmoola : Inularacemosa

The role of ‘Pathya’ and ‘Apathya’ cannot be overlooked as dietary and life style modifications play a primary role in the management and prevention of obesity.

A clinical trial conducted on 20 patients in Kayachikitsa O.P.D of Govt. Ayurvedic college & Hospital of Patna(Bihar). Patient was educated about the drug and the trial and his/her consent obtained and then registered for the above trial.

Aim: To evaluate the effect of Powder of dry Radish mixed with Madhu & Ardha-chakrasan in obesity.

Inclusion criteria
- Age between 20-50 years
• B.M.I : 25-35kg/m²
• Presenting with the clinical features of obesity.
• Normal or controlled blood sugar
• Hypertension grade 1 (mild)
• Physically able to perform Ardha-chakrasana.

Exclusion criteria
• Below 20 and above 50 years
• BMI <25kg/ m²
• Obesity associated with cardiac complications, moderate / severe HTN etc
• Obesity secondary to hormonal deficiencies.

Assessment criteria
1) objective criteria
The assessment criteria were BMI, dyspnoea on exertion, Systolic blood pressure & diastolic blood pressure. For objective criteria mean value were taken before & after treatment. Dyspnoea on exertion & blood pressure were noted in lying down position.

2) subjective criteria
Osteoarthritis of knee joints & ksudhadhikya were considered as subjective from symptoms mentioned above for obesity.

Selection of drug and dose
Powder of dry Radish mixed with Madhu was selected according to reference in Bhavprakash[16] in the dose of 5gm/ day mixed with honey per oral in morning before breakfast. Simultaneously all patients were advised& explained for Ardha-chakrasana daily for 3 times at interval of 1 min (30 sec for each time).

Subjective criteria for assessment for ksudhadhikya:-
Person taking food in less quantity in respect to need (score 0)
Person taking food in normal quantity in respect to need (score 1)
Person taking food in excessive quantity once a day (score 2)
Person taking food in excessive quantity >twice a day (score 3)
Subjective criteria for assessment for osteoarthritis of knee joints

Person have no pain in knee joints(score 0)
Mild pain with on and off aggravations at nights.(score 1)
Moderate pain and constant pain.(score 2)
Severe with restriction of all movements.(score 3)

Duration of Trial: 4 months with monthly follow-ups.

Statistical analysis

RESULTS AND OBSERVATIONS:N=20

Table 1 Statistical analysis of respiratory rate in patients of obesity.

<table>
<thead>
<tr>
<th>GROUP N=20</th>
<th>RESPIRATORY RATE (MEAN +/- SD)</th>
<th>Difference (paired ‘t’ test)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BT</td>
<td>AT</td>
</tr>
<tr>
<td></td>
<td>25.30 +/-3.61</td>
<td>21.25 +/-2.05</td>
</tr>
</tbody>
</table>

Table 2. Showing statistical significance in the diastolic blood pressure (DBP) In patients of obesity after using selected drug in this study.

<table>
<thead>
<tr>
<th>Group N=20</th>
<th>DBP(Mean +/-SD)</th>
<th>Within the group comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BT</td>
<td>AT</td>
</tr>
<tr>
<td></td>
<td>93.70 +/-6.69</td>
<td>83.00 +/- 5.82</td>
</tr>
</tbody>
</table>

Table 3 showing statistical significance in the Systolic blood pressure & BMI in patients of Obesity after using selected drug in this study.

<table>
<thead>
<tr>
<th>Group N=20</th>
<th>SBP (Mean +/- SD)</th>
<th>Within the group comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BT</td>
<td>AT</td>
</tr>
<tr>
<td></td>
<td>138 +/-12.63</td>
<td>123.30 +/-12.42</td>
</tr>
<tr>
<td>BMI</td>
<td>30.32 +/-2.77</td>
<td>428.78 +/-2.775</td>
</tr>
</tbody>
</table>

Table 4 Assessment of subjective parameter.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>BT</th>
<th>AT</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>ksudhadhi-kya</td>
<td>2(pain score)</td>
<td>1(pain score)</td>
<td>50% improvement</td>
</tr>
<tr>
<td>Osteo-arthritis of knees</td>
<td>2(pain score)</td>
<td>1(pain score)</td>
<td>50% improvement</td>
</tr>
</tbody>
</table>
DISCUSSION AND CONCLUSION

Staulya is a metabolic disorder and the hyper-functioning of the medodathwagni is responsible in the pathogenesis. It can effectively controlled and the onset and the intensity of complications can be considerably delayed and reduced as well by Ayurveda and Yoga. The results in the above clinical trial show that powder of dry Radish mixed with honey & Yogic Asanas increases the peripheral utilisation of glucose. The therapy was more effective in reducing the DBP as well as SBP. Reduction in respiratory rate was highly significant showing desire effect of drug. The physical capacity to work also increased as the 50% improvement in joint pain (knee) was found. The reduction in the severity of pain also enhanced the calibre of the patient Basing on the above results we can conclude that a simple remedy along with physical exercise in the form of yogic Asanas is relatively smart choice of therapy in combating the silent but dangerous disease.

REFERENCES


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