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A clinical evaluation and comparative study of Loha rasayana and Tryushanadya Loha in the management of Sthaulya (obesity)

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Abstract

Ayurveda is not only a medical science but also a science of life. To remain a person healthy Ayurveda also described Dincharya, Ratricharya, and Ritucharya that are complete the side of life science of Ayurveda.

Sthaulya is global problem. It is common among people who consume excessive Kaph Vardhak Ahar Vihar prevalent in both developing and developed countries. There are around 475 million obese adults with over twice that number overweight - that means around 1.5 billion adults are too fat. Over 200 million school-age children are overweight, making this generation the first predicted to have a shorter lifespan than their parents and affecting adult as well as children.

Sthaulya Roga strikingly resembles with disease entity termed as obesity in modern system of medicine. In Ayurveda the treatment of Sthaulya Roga is Apatarpana chikitsa including Ahara, Vihara & drugs.

The management of obesity with modern medicine is quite unsatisfactory and associated with serious side effect. So it was decided to do a trial on Herbomineral medicines in form of Loharasayana and Trushanadhya loha.

The study was conducted in sixty clinically diagnosed patient of Sthaulya (Obesity). It was observed that the patient of Sthaulya Roga treated with Loharasayana & Trushana Loha showed good results on reducing their body weight.

Keywords: Sthaulya, Ayurvedic drug, weight loss, Loharasayana, Trushanadhya Loha.

1. Introduction

India has a bio-diversity in herbal medicine and these play an important role in human life. Herbal medicine satisfies both the aims of Ayurveda, by maintaining the health of healthy individual and cures the disease of the diseased one.

The problem of Sthaulya (obesity) is not new; it has its existence right from Vedic period. Charaka samhita the pioneer text of Ayurveda has mentioned about Sthaulya. In the description of Physical constitution under astha ninditiya purusha; Ati-Sthula is one among eight undesirable physical constitutions [1]. According to Acharya charaka chal-sphik udara, Stana are the main clinical features of Sthaulya [2].

There is an epidemic of obesity in developed countries and metropolitan cities. So we can say that sthauya is the most vulnerable disease in the present era and there is no safe and satisfactory management of Sthaulya available in modern system of medicine.

According to the World Health Organization in 2014 more than 1.9 billion adults, eighteen years and older were overweight and that over 600 million of these are obese. In 2014, 39% of adults aged 18 years and over (38% of men and 40% of women) were overweight. The worldwide prevalence of obesity more than doubled between 1980 and 2014 [3].

Therefore, it was decided to evaluate Herbo-mineral drugs in the management of Sthaulya as per the principle of Ahara, Vihara and drugs.

Aims and Object

To reduce the symptoms of sthauya such as, lethargy, Adepagia, Dyspnea, Anadipsia,

phantasm, Hypersomnia,

To evaluate and compare the efficacy of loharasayana & Tryushanadya loha in the management of sthauilya (obesity)

Materials & Methods

The study comprises of two parts literary review and clinical study. Literary review includes disease review and drugs review. In disease review section the aetiopathogenesis and symptoms of disease Sthauilya is reviewed critically by referring various classical texts and modern references. Drugs review section studied the contents of the studied formula Loha Rasayana and Tryushnadhya Loha in detail. In clinical study the effects of Loha Rasayana and Tryushnadhya Loha are assessed by specially prepared assessment criteria and the significance of the effect is measured by statistical test.

Disease Review

According to Dhatu poshana theory in Sthauilya Medo dhatu get over nourished as compare to other dhatu, because of over nourishment deposition of medo dhatu take place in various body parts^[4].

As per Acharya charak Sthaulaya is defined as “movable body parts of an individual like buttock, chest, and abdomen due to excessive accumulation of medo and mansa, known sthauilya”^[5].

Obesity can be defined as an excessive accumulation of fat in the adipose tissue of the body. The Framingham study demonstrated that a 20% excess over desirable weight clearly imparted a health risk. The basic cause of obesity is over nutrition. A diet containing more energy than needed may lead to prolonged prodigal post hyperlipidemia and to deposition of triglycerides in adipose tissue resulting in obesity^[6].

Obesity is a disorder of energy imbalance. The two sides of the energy equation, intake and expenditure are finally regulated by neural and hormonal mechanism. This fine balance is maintained by an internal 'set point' or lipostat. The concept of a 'set point' of body weight suggests that each person has a control system that 'sets' how much weight or alternatively how much fat he or she should have^[7].

Drugs Review

The comparative study performed between Loharasayana and Tryushanadya loha. Loharasayana is mentioned in the Vangsen Samhita under Medorogadhikar. The ingredients of loharasayana are as follows^[8].

Gugglu (Commiphora Mukul), Talmooli (Curculigo Orchioides), Tiphala (Terminalia Chibula, Terminalia Belerica, Amblica Officinalis), Khadir (Acasia Catechu), Adoosa (Adhatoda Vassica), Trivrutta (Operculina Terpehum), Gorakhmundi (Sphaeranthus Indicus), Shunthi (Gingiber Officinale), Nirgundi (Vitex Negundo), Chitrak (Plumbago Zeylanica), Kantloh Bhasm, Cow's Butter, Sugar, Honey, Sheelajeet (Asphaltum), Ela (Elettaria Cardamomum), Black Pepper (Piper Nigrum), Tvak (Cinnamomum Zeylanicum), Vayvidang (Embllica Ribes), Pippli (Piper Longum), Rasot (Berberis Aristata), Kasis (Ferrous Sulphate)

Tryushnadaya Loha is mentioned in the Yogratnakar under the Medorogchikitsadhikar. The ingredients of it are as follows^[9].

Tryushana (Gingiber officinale, piper nigrum, piper longum), Tiphala (Terminalia chibula, terminalia belerica, Amblica

officinalis), Chavya (Piper retrofractum), Chitrak (plumbago zeylanica), Bakuchi (Psorolia corylifolia), Sauvarchal Lavan (Black salt), Saindhav Lavan (Rock salt), Aoudbhid salt, Vid salt (Ammonium Chloride), Lohbhasm in equal quantity.

Clinical Study

Selection of Patients

Inclusion criteria

1. Patients were randomly selected, Irrespective of Age, Sex, Prakriti, Sara, Religion, Satmya, Satva etc.
2. Patients with classical sign & symptoms of Sthauilya were selected.
3. Patients having the BMI more than 25 were selected.
4. All the patients were examined and assessed by taking detailed case history through clinical examination to establish final diagnosis of Sthauilya.

Exclusion Criteria

1. Patients suffering from Infectious disease were excluded.
2. Patients suffering from hypothyroidism were excluded.
3. Associated with Coronary heart disease, Hypertension, etc.
4. Pregnant & lactating woman
5. BMI > 45

Formation of Groups

Sixty clinically diagnosed and selected patients of Sthauilya were randomly divided into two groups having 30 patients in each group. Group – A patients were given Loharasayana in Awaleha form and Group - B patients were given Trayushanadya Loha in capsule form.

Doses

Loharasayana Awaleha – 5 gm in adult patients twice a day with milk.

Trushanadya loha capsules of 500 mg in adults patient twice a day with in unequal quantity of Honey & ghee.

Exercise – All the patients were instructed to morning walk, cycling and other exercise that they can do.

Diet

Patients of both groups were given a chart comprising diet restrictions and exercises.

Assessment Criteria – For assessing the changes, patients were examined at two week intervals. Suitable scoring method for the symptoms and signs was adopted. The efficacy of the therapy was assessed on the basis of subjective as well as objective criteria.

Subjective criteria

Most of the signs and symptoms of Sthauilya described in Ayurveda are subjective in nature.

Symptomatic Assessment

Patient were assessed on the criteria of symptomatic relief such as presence of Sthauilya symptoms like Unctuousness, coughing, foul smelling, abdomen enlargement, enlargement of flanks, Dyspnea, Anadipsia^[10], lethargy,^[11] Adepahgia, desudation, snoring, Hypersomnia, phantasm, lack sex power^[12]. Alappana^[13].

Objective criteria

It was assessed on body weight, measurement of circumference and BMI before and after the treatment.

Weight Loss

Percentage of reduction in weight is calculated by the ratio of change in weight and excess weight beyond normal BMI.

Reduction in Organ circumference

Detail table of organ circumference before and after treatment like neck, arm, chest, abdomen, buttock, thigh of both groups.

Table 1: A-Group

Organs name	Mean		Dif.	% of Change	SD	SE	t	p
	BT	AT						
Neck	36.67	34.47	2.20	6.00	0.96	0.18	12.53	<0.001
Arm	31.10	28.33	2.77	8.90	1.04	0.19	14.57	<0.001
Chest	98.40	94.80	3.60	3.66	1.28	0.23	15.46	<0.001
Abdomen	105.13	100.30	4.83	4.60	2.36	0.43	11.20	<0.001
Buttock	110.37	106.17	4.20	3.81	3.04	0.56	7.56	<0.001
Thigh	57.30	54.13	3.17	5.53	1.21	0.22	14.38	<0.001

Table 2: B-Group

Organs name	Mean		Dif.	% of Change	SD	SE	t	p
	BT	AT						
Neck	36.83	34.30	2.53	6.88	1.01	0.18	13.77	<0.001
Arm	33.57	30.60	2.97	8.84	0.96	0.18	16.85	<0.001
Chest	103.50	99.13	4.37	4.22	1.56	0.29	15.29	<0.001
Abdomen	106.47	102.00	4.47	4.20	1.28	0.23	19.12	<0.001
Buttock	112.10	107.97	4.13	3.69	1.20	0.22	18.93	<0.001
Thigh	56.97	53.67	3.30	5.79	0.95	0.17	18.98	<0.001

Table 3: Overall assessment of the clinical recovery

S. No.	Criteria	Group A					Group B				
		% of Change	SD	SE	t	p	% of Change	SD	SE	t	p
1.	Symptomatic relief	56.86	7.78	1.94	15.98	<0.001	42.28	7.98	1.99	12.5	<0.001
2.	Weight Loss	39.32	1.24	0.23	4.68	<0.001	28.94	0.86	0.16	6.73	<0.001

Discussion

In both groups Unctuousness, Dyspnea, Hypersomnia, Lethargy will be because of the deposition of excess amount of kapha dosha & meda dhatu. Because of the deposition of meda in excess quantity in various body parts the various symptoms like abdomen enlargement, enlargement of flanks, movement and extra enlargement in the areas of Sphik (Buttock) – Udara (abdomen) – Stana (chest) Vitiated Vata dosh can cause Trushadhikya and kshudhadhikya [14]. Excessive sweating is because of infected swedmala and medadhata.

We get the percentage of symptomatic relief in group A, is 56.86% and in group B is 42.41%, in Sthaulya patients. We get maximum symptoms like – Unctuousness, abdomen enlargement, enlargement of flanks, Dyspnea, Anadipsia, phantasm, Hypersomnia, snoring, lethargy, Adephegia, desudation, etc.

Group A- Patients weight loss percentage 39.32% and in group B 28.94%. The reduction in body weight of both groups of patients is because of the medohara and medoshamak medication.

Conclusion

As per the criteria of symptomatic relief we got the average percentage relief in Group A is 56.86% and in group B is 42.41%.

As per the weight loss assessment criteria we got the average of percentage weight loss in group A is 39.32% and in group B 28.94%.

After observing all the results from both groups i.e. in group A & group-B, we get more result in group A as compare to group B. So we can say that loharasayana is more beneficial as compare to Tryushanadya loha in sthauilya disease.

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