

A Clinical Study of the Efficacy of *Varadi Kashaya Vati* and *Navak Guggulu* in the Management of *Sthaulya* w.s.r. to Childhood Obesity



Usha Damor¹, P P Vyas² and Harish Kumar Singhal^{3*}

¹P.G. Scholar, Department of Kaumarbhritya, University College of Ayurved, India

²Associate Professor & Head, Department of Kaumarbhritya, University College of Ayurved, India

³Associate Professor, Department of Kaumarbhritya, University College of Ayurved, India

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***Corresponding author:** Harish Kumar Singhal, Associate Professor, Department of Kaumarbhritya, University College of Ayurved, Dr. S. R. Rajasthan Ayurved University, Jodhpur, Rajasthan, India

Abstract

Obesity is a condition in which excess body fat has been accumulated in different parts in the body mainly in the subcutaneous tissues. It has an adverse effect on health and leads to reduced life expectancy as well as increased health problems. The World Health Organization has identified obesity as a global epidemic. The term "*Sthaulya*" is described in Ayurveda for "Overweight and Obesity". This study was undertaken to identify the efficacy of *Varadi Kashaya* and *Navak Guggulu* which are mentioned in *Sahasram Yoga* and *Yogaratanakar* respectively, in the treatment of *Medoroga*. Total 40 children of either sex of age group 10-16 years were randomly selected from OPD & IPD of Hospital of University College of Ayurved, Karwar, Jodhpur and Kanniram Salagram Satellite Ayurved Hospital, Magara Punjala, Jodhpur and randomly divided into two groups viz Group A & Group B. Group A children were treated with *Varadi Kashaya Vati* while *Navak Guggulu* was given to Group B children in dose of 10mg/body weight/day twice a day for a period of two months. *Navak Guggulu* was found to have significant effect in reducing the symptoms of *medo dushti* and in reduction of objective parameters like Bodyweight, B.M.I., Skinfold thickness, Body circumference and lipid profile. However, both medicine *Navak Guggulu* and *Varadi Kashaya Vati* were found effective in the management of childhood obesity, but *Navak Guggulu* was found superior over *Varadi Kashaya Vati*.

Keywords: *Sthaulya*; *Varadi Kashaya*; *Navak guggulu*; Obesity

Introduction

Health is a relationship between mind, soul and body, but now a days the synchronization between mind and body is disturbed which results in lots of physical, mental and psychological issues. Obesity is one of the burning health issues of today's time, even children are not exempt from this. Obesity (*Sthaulya*) is frowned upon by society for both social and medical reasons. *Sthaulya* is *Santarpanjanya Vikar* [1] means "overnutrition." *Sthaulya* is classified as *Medoroga* in Ayurveda. When *Agni*, or digestive power, is disrupted, *Ama* is produced, which disrupts tissue fire in fatty tissues and prevents the normal development of new tissues. Obesity is caused by the accumulation of improperly produced fatty tissue in the body. Due to the *Chala Guna* of *Vata*, accumulated fats disrupt *Vata's* mobility, which in turn promotes hunger. Children, as a result, it's more of a whole meal is then converted into improper fatty tissue [2]. In *Kashyapa Samhita*, *Sthaulya* is considered as one among the *Ashtanindita Purusha*

while explaining the anthropology. Both these persons- the obese and the emaciated- are to be deprecated always' that of medium physique is best; among the obese and the emaciated, the emaciated is better [3]. Childhood obesity is one of the most important nutritional health crisis at national and international level. The problem is global and is affecting many low- and middle-income countries, particularly in urban areas.

The prevalence has increased at an alarming rate. Globally in 2010, the number of overweight children under the age of five is estimated to be over 42 million. Close to 35 million of these are living in developing countries [4]. Obesity has spread rapidly over the world. The middle and upper classes are the worst affected. Body fat makes a person sluggish, decreases his was power, and lowers his immunity. Children become overweight and obese for different causes. The most common causes are genetic factor, lack of physical activities, sedentary life style, excessive sleep,

sleeping during day especially soon after meal and unhealthy food habits like junk foods, street food etc. Obesity and overweight are caused by a discrepancy in the number of calories consumed and used. Childhood obesity is one of the most serious public health challenges of the 21st century. The problem is global and steadily affecting many low- and middle-income countries, particularly in urban settings.

Need of Study

Sahasram Yoga [5] and *Yogaratanakar* [6] emphasize the uses of the *Varadi Kashaya Vati* and *Navak Guggulu* which is claimed effective for the *Sthaulya*. In the present study, *Varadi Kashaya Vati* and *Navak Guggulu* are taken for Clinical trial which are quoted from *Sahasram Yogakashya prakarana* 63/10 and *Yogaratanakar Medoroga chikitsa*-1. It mainly contains drugs like *Sunthi*, *Maricha*, *Pippali*, *Chitraka*, *Haritaki*, *Bibhitaki*, *Amalaki*, *Musta*, *Vidanga*, *Guggulu*, *Nisha*, *Asana*. Almost all the Drugs are having *Katu Rasa*, *Laghu Ruksha Guna*, *Ushna Virya*, *Katu Vipaka* and *Kapha Vata Shamaka* properties which may be helpful in disintegrating the *Samprapti* of *Sthaulya*. These showed encouraging results in reduction of weight, skin fold thickness, body circumference and associated signs and symptoms.

Aims & Objectives

- To evaluate the efficacy of *Varadi Kashaya Vati* in the management of childhood obesity.
- To evaluate the efficacy of *Navak Guggulu* in management of childhood obesity.
- To compare the efficacy of *Varadi Kashaya Vati* and *Navak Guggulu* in the management of childhood obesity.
- To collected literature on *Sthaulya* W.S.R. to obesity from *Ayurveda* and modern.

Clinical study Source of Data

Total 40 children of either sex of age group 10-16 years were randomly selected from OPD & IPD of-

- i. Hospital of University College of *Ayurved*, Karwar, Jodhpur
- ii. Kanniram Salagram Satellite *Ayurved* Hospital, Magara Punjala, Jodhpur

Selection of children

A. Inclusion criteria

- Children age group from 10-16 years of either sex were selected for study.
- Children having cardinal feature of childhood obesity were selected.
- Children having BMI 86th percentile – 94th percentile and

above 95th percentile were included in this present study.

B. Exclusion criteria

- Children age below 0-9years & above 16 years of age were excluded from the study.
- Children receiving drugs like steroids and anti-depressants etc were excluded from the study.
- Childhood obesity due to any endocrinal disorders like Cushing syndrome, hypothyroidism etc were excluded.
- Children having BMI below 5th percentile were not considered.

C. Discontinuation Criteria

- Parents of children not willing to continue.
- During the course of clinical trial, if a child develops any serious condition which requires urgent treatment.
- A child her/his self wants to withdraw from the clinical trial.

D. Protocol of Research

- Consent of children after making her aware of merits/demerits of trial with duration of the proposed trial.
- Fulfilment of inclusion criteria.
- Registration of obese children.
- Investigations mentioned were advised to her/him before presenting *Ayurvedic* formulation (Tables 1-3).

Table 1: Showing the Grouping and Posology.

Group	A	B
Name of drug	<i>Varadi Kashaya Vati (Compound-A) +Diet</i>	<i>Navak Guggulu Vati (Compound-B) +Diet</i>
No. of children	20	20
Types of study	Double blind	Double blind
Duration of drug Trial	60 days	60 days
Dose	10 mg/bodyweight/day	10 mg/bodyweight/day
Duration	2times/day in two divided doses	2times/day in two divided doses
Anupan(Vehicle)	<i>Ushan Jala</i> (lukewarm water)	<i>Ushan Jala</i> (lukewarm water)
Route	Oral	Oral
Randomization	Simple random sampling	Simple random sampling

Table 2: Showing the contents of *Varadi Kashaya*.

S. No	Ingredient	Latin name	Part used	Ratio
1.	Haritaki	<i>Terminalia Chebula Retz.</i>	Fruit	1 Part
2.	Amalaki	<i>Emblica Officinale Gaertn</i>	Fruit	1 Part
3.	Bibhitaki	<i>Terminalia Bellirica Roxb</i>	Fruit	1 Part
4.	Chitrak	<i>Plumbago Zeylanica Linn.</i>	Root	1 Part
5.	Nisha	<i>Curcuma Longa Linn</i>	Rhizome	1 Part
6.	Asana	<i>Pterocarpus Marsupium Roxb</i>	Niryas	1 Part

Table 3: Showing the contents of *Navak Guggulu*.

S no.	Ingredients	Latin name	Part used	Ratio
1.	Sunthi	<i>Zingiber Officinale Rosc</i>	Rhizome	1 part
2.	Marich	<i>Piper Nigrum Linn</i>	Fruit	1 part
3.	Pippali	<i>Piper Longum Linn</i>	Root	1 part
4.	Nagarmotha	<i>Cyperus Rotendus Linn</i>	Rhizome	1 part
5.	Amalaki	<i>Emblica Officinale Gaertn</i>	Fruit	1 part
6.	Bibhitaki	<i>Terminalia Bellirica Roxb</i>	Fruit	1 part
7.	Haritaki	<i>Terminalia Chebula Retz</i>	Fruit	1 part
8.	Vidang	<i>Emblia Ribes Burm</i>	Fruit	1 part
9.	Chitrak	<i>Plumbago Zeylanica Linn</i>	Root	1 part
10.	Guggulu	<i>Commiphora Mukul Engl.</i>	Niryas	9 parts

Both trial drugs were prepared as per guidelines given in *Sahasram Yoga* and *Yogaratanakar* in pharmacy of University College of *Ayurveda*, Dr. S.R. Rajasthan *Ayurveda* University Jodhpur. Both drugs were of similar physical character like color, flavor, taste and packed in similar packing to avoid biasing. Coding of study drugs was done by another person not related to this study. Coded document was kept under safety and opened after the completion of study to decode the compounds. The selected children were subjected to careful history taking by using specially prepared research questionnaire and assessed by subjective and objective parameters before and after treatment.

Statistical Analysis

All the results were calculated by using Software: PSS 17.0

Intra Group Comparison –For Nonparametric Data Wilcoxon Matched pairs signed ranks test was used while for Parametric Data Paired ‘t’ Test was used and results were calculated.

Inter Group Comparison- For Nonparametric variables Mann Whitney U test was used while for Parametric Data unpaired t-test was used. The results were calculated (Table 4).

Table 4: Res. Showing the P value used in result.

Extremely Significant	P<0.001
Very Significant	P<0.01
Significant	P<0.05
Not Significant	P>0.05

Observations

Total 40 children were registered in this trial study. Among them 20 children had been included in Group A and other 20 children were registered in Group B.

Age -Maximum 55% of children in both group A and group B were in 14-16 years age, 22.5 % no. of children belongs to age group 10-12 years in both groups. It means that youngsters in their adolescent years are more likely to become obese. It is *Madhyama Kala*, according to *Ayurveda*, and it leads to “*Paripurnata*” in all *Sharir Dhatus*. Obesity is more common in adolescents, according to recent sources.

Sex-Male predominance was evident in both group (group A -55% children were male, and 45 % children were female.)

Religion-Majority of the population i.e.,87.5% children were Hindu in both groups. followed by Muslim community12.5 %. This may be the representation of the total community distribution in Jodhpur city and surrounding from where most of the children came.

Socio Economic Status- Maximum 80% children were from upper middle status and 20% children were from lower middle status.

Habitat- 70 % children were from Urban area in both groups while 30 % children belong to rural habitat. Overnutrition is more likely in children who have easy access to their necessities and live-in calm, non-violent environments.

Dietary Habits-Mixed dietary were found to be more i.e., 75% individuals and individuals of children have vegetarians’ diet was 25%.

Dosha - 40% of children had *Pitta Kapha* and 5% of children had *Vata Kapha* which shows *Kapha* predominancy in *Sthaulya*.

Satva- *Satva* was of *Pravara* type in 45.00% and 30% of children in group A and group B respectively, while it was *Madhyama* type in 55% and 70% and none of children found in *Avara* type *Satva* in groups respectively.

Ahara Shakti- 42.5 % children had *Madhyam Ahara Shakti* and 57.5% children had *Pravara Ahara Shakti*.

Jarana Shakti - 2.5% children had *Avara Jarana Shakti*, 42.5 % children had *Madhyam Jarana Shakti* and 55 % children had *Pravara Jarana Shakti*.

Vyayam Shakti - 27.5% children had *Alpa Vyayam*, 12.5% children had *Heena Vyayam* and 60% children had *Madhyam Vyayam*. It shows how etiological factors, such as *Aavyayam*, have a role in the occurrence of *Sthaulya*. Obesity is mostly caused by a lack of physical activity. This assertion is validated by both ancient and modern medical knowledge.

Desha-12.5% children had *Aanoop Dehsa* and 87.5% children had *Jangal Desha*.

Agni-87.5% children had *Sama Agni* and 12.5 children had *Vishama Agni*. *Medo Roga* children had an increased *Jatharagni*, which leads to increased food consumption. Also, according to *Acharya Charaka*, the *Avaran* of *Vayu* causes excessive hunger in *Agni's Medo Roga Sandhukshana*, generating a desire to eat more frequently. It is also characterised by rapid food digestion, which perpetuates the cycle of increased hunger. *Vishamagni* and *Tikshnagni* in children could be caused by *Koshthastha Vayu* and *Sandhukshita Agni*.

Kostha-67.5% children had *Madhyam Kostha*, 20% children had *Krura Kostha* and 12.5 % children had *Mridu Kostha*. Most of the children had *Madhyama Koshtha*, which is a *Kapha* dominance *Koshtha* that forms the foundation for Obesity. *Madhyama Kostha* is mostly caused by *Kapha* dominance, according to *Ashtanga Hridaya*.

Nidra- 15 % children had *Atinidra* and 85 % children had *Samyak Nidra*. Excess sleep is one of the main reasons of obesity, as it produces *Kapha Prakopa* and increases the *Meda Dhatu*, therefore acting as an etiological factor. *Divaswapana* also causes vitiation in all three *Doshas* and an excessive rise in the *Meda Dhatu* due to the *Snigdha-Abhishyandi* property's blockage. *Divaswapana* is strongly prohibited in *Medasvi*, *Kapha Prakriti*, and *Kapha Rogi* children. Both of the aforesaid variables create *Meda Vriddhi*, which leads to the creation of *Shithila Medo Dhatu*, which aids in the pathogenesis of obesity.

Addiction-40% children had addiction of tea, 7.5% children had addiction of Coffee and 52.5 % children had no addiction.

Duration-10% children had 2-year duration of disease, 45% children had 3-year duration of disease, 35 % children had 4-year duration of disease and 10 % children had 5-year duration of disease. World health organization has listed obesity in diet related chronic disease.

Results

Effect of Therapy on Atipipasa/ Excessive Thirst

P-Value for Group A was less than 0.001 and Group B was less than 0.001. Effect observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed in Group A was 50% and Group B was 63.89%.

Effect of Therapy on Anga Gaurav

P-Value for Group A was less than 0.001 and Group B was less than 0.001. Effect observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed in Group A was 51.85% and Group B was 54.55%.

Effect of Therapy on Alasya/Javoparodha

P-Value for Group A was less than 0.001 and Group B was less than 0.001. Effect observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed in Group A was 54.55% and Group B was 61.11%.

Effect of Therapy on Atikshudha

P-Value for Group A was less than 0.001 and Group B was less than 0.001. Effect observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed in Group A was 45.16% and Group B was 63.16%.

Effect of Therapy on Nidradhikya

P-Value for Group A was less than 0.001 and Group B was less than 0.001. Effect observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed in Group A was 48% and Group B was 51.35%.

Effect of Therapy on Daurgandhya

P-Value for Group A was less than 0.01 and Group B was less than 0.001. Effect observed in Group A was very significant and Group B was extremely significant. Thus, the effect observed in Group A was 50% and Group B was 69.57%.

Effect of Therapy on Kshudra Shwasa

P-Value for Group A was less than 0.01 and Group B was less than 0.001. Effect observed in Group A was very significant and Group B was extremely significant. Thus, the effect observed in Group A was 52.63% and Group B was 62.96%.

Effect of Therapy on Swedadhikya

P-Value for Group A was less than 0.01 and Group B was less than 0.001. Effect observed in Group A was very significant and Group B was extremely significant. Thus, the effect observed in Group A was 46.67% and Group B was 55.56%. Thus, it may be concluded that mostly combination of *Katu- Rasa, Laghu, Ruksha* and *Ushna-Virya, Katu-Vipaka Pradhana* drugs in *Navak Guggulu* having all the properties can do the function of *Stroto Vibandhanashana* and against *Kapha, Kleda* and *Meda*. These drugs may be effective on *Rasa, Meda, Medodhatvagni*, which provided good results in all signs and symptoms.

Comparison between Group A and Group B

For comparison between Group A and Group B Mann Whitney U Test was used. From above table it was observed that, there was significant difference observed in Group A and Group B for *Atipipasa, Atikshudha, Nidradhikya, Daurgandhya, Kshudra Shwasa, Swedadhikya*.

Effect of Therapy on Serum Cholesterol

P-Value for Group A was less than 0.001 and Group B less than 0.001. Effect was observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed in Group A was 7.66% and Group B was 8.88%.

Effect of Therapy on Serum Triglyceride

P-Value for Group A was less than 0.001 and Group B was less than 0.001. Effect was observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed in Group A was 4.41% and Group B was 5.68%.

Effect of Therapy on HDL

P-Value for Group A was less than 0.05 and Group B was less than 0.01. Effect observed in Group A was significant and Group B was very significant. Thus, the effect observed in Group A was 1.91% and Group B was 3.28%.

Effect of Therapy on VLDL

P-Value for Group A was greater than 0.05 and Group B was less than 0.001. Effect observed in Group A was not significant and Group B was extremely significant. Thus, the effect observed in Group A was 0.61% and Group B was 3.22%.

Effect of Therapy on LDL

P-Value for Group A was less than 0.01 and Group B was less than 0.001. Effect observed in Group A was very significant and Group B was extremely significant. Thus, the effect observed in Group A was 1.47% and Group B was 2.62%.

Comparison between Group A and Group B

For comparison between Group A and Group B, unpaired t-test was used. From above table it was observed that, there was significant difference observed in Group A and Group B for Serum Cholesterol, Serum Triglyceride, VLDL and LDL and there was no significant difference observed in Group A and Group B for HDL.

Effect of Therapy on Weight

P-Value for Group A was less than 0.001 and Group B was less than 0.001. Effect observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed in Group A was 5.49% and Group B was 5.87%.

Effect of Therapy on BMI

P-Value for Group A was less than 0.001 and Group B was less than 0.001. Effect observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed in Group A was 3.97% and Group B was 5.96%.

Effect of Therapy on MAC

P-Value for Group A was less than 0.001 and Group B was less than 0.001. Effect observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed

in Group A was 2.04% and Group B was 3.04%.

Effect of Therapy on Waist Circumference

P-Value for Group A was less than 0.001 and Group B was less than 0.001. Effect observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed in Group A was 2.49% and Group B was 3.50%.

Effect of Therapy on Hip Circumference

P-Value for Group A was less than 0.001 and Group B was less than 0.001. Effect observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed in Group A was 1.97% and Group B was 3.46%.

Effect of Therapy on WHR

P-Value for Group A was greater than 0.05 and Group B was greater than 0.05. Effect observed in Group A was not significant and Group B was not significant. Thus, the effect observed in Group A was 0.47% and Group B was 0.16%.

Effect of Therapy on S.F.T SUPRA ILLIAC-

P-Value for Group A was less than 0.001 and Group B was less than 0.001. Effect observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed in Group A was 5.55% and Group B was 4.86%.

Effect of Therapy on S.F.T. TRICEPS

P-Value for Group A was less than 0.001 and Group B was less than 0.001. Effect observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed in Group A was 7.61% and Group B was 7.67%.

Effect of Therapy on S.F.T. BICEPS

P-Value for Group A was less than 0.001 and Group B was less than 0.001. Effect observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed in Group A was 7.95% and Group B was 7.99%.

Effect of Therapy on Body Fat %

P-Value for Group A was less than 0.001 and Group B was less than 0.001. Effect observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed in Group A was 2.01% and Group B was 2.0%.

Effect of Therapy on Visceral Fat %

P-Value for Group A was less than 0.001 and Group B was less than 0.001. Effect observed in Group A was extremely significant and Group B was extremely significant. Thus, the effect observed in Group A was 2.01% and Group B was 1.95%.

Overall Effect

The overall relief of the treatment was noted. In group A 35% children showed moderate improvement 65 % children showed

mild relief, where as in group B 60 % children showed moderate improvement and 30 % children showed mild relief.

Discussion

Sthaulya is a metabolic disorder caused by a lack of exercise, poor diet, stress, genetic predisposition, and an increase in *Kapha Dosha* (bio element) leading to excessive adipose tissue accumulation, as well as an accumulation of *Prithvi* and *Jala Mahabhoota* (earth and water elements) in the body, poor digestive fire, and toxin accumulation. Overeating and sedentary lifestyle, excessive sleep, use of steroids and psycho-emotional illnesses like sadness and anxiety, all these contribute to the accumulation of *Prithvi* and *Jala Mahabhoota* in the body. *Prithvi* and *Jala Mahabhoota* relate to the attributes of heavy, dense, slow and cold and are hostile to *Dhatvagni* (metabolic fire), which is sharp, light, and hot, resulting in sluggish metabolism and accumulation of fat. So, the drugs chosen should be of *Kaphahara* properties to break the etiopathogenesis of Obesity [7].

This study showed the efficacy of *Varadi Kashaya* and *Navak Guggulu*, as stated in *Sahasram Yoga* and *Yogratnakara*, respectively, on childhood obesity. Both formulations were made in the form of *Vati* to improve their palatability and make them easier to administer to the children. Many *Ayurvedic* medicines for the treatment of obesity have been listed in *Ayurvedic* scriptures. So, in this study, the oral drugs *Varadi Kashaya* and *Navak Guggulu*, which are described in *Sahasram Yoga* and *Yogaratnakar*, had been chosen for trial study. Both formulations were presented in the form of tablets to improve their palatability and make them easier to administer to children.

Probable Mode of Action

Navak Guggulu

Guggulu (*Commiphora Wightii* Arn. Bhandari) is the major constituent in *Navaka Guggulu*, a well-known polyherbal preparation. *Sunthi*, *Marich*, *Pippali*, *Nagarmotha*, *Amalaki*, *Bibhitaki*, *Haritaki*, *Vidanga*, and *Chitrak* are among the other constituents. All classics recommend it for *Medoroga* (hyperlipidemia), *Sthaulya* (obesity), and other *Kaphajaroga* (*Kapha*-related disorders). The antiobesity activity of this formulation has been reported [8]. It has also been examined in conjunction with other medications in the treatment of hyperlipidemia. It is a well-known *Ayurvedic* medication with properties like *Ruksha* (dry), *Laghupaki* (light in digestion), *Sara* (spreading), *Rasayana* (rejuvenator), *Swarya* (improves voice), *Deepana* (appetizer), *Medohara* (decreases *Medodhatu*), *Mehahara* (antidiabetic), *Vatahara* (pacifies *Vata*), and so on [9].

Medo Dhatu's obstruction by *Vata* causes symptoms including exhaustion, exertional dyspnea, thirst, increased sleep, and increased perspiration among *Medorogi*. Most of the medications in *Navak Guggulu* have qualities like hot, pungent, and scraping. These medications' digestive (*Ama Pachana*), appetitive, scraping, lightening, and *Vata-Kapha* palliative effects aid in the relief of the

symptoms. As a result, via scraping activity, it removes *Medoja* blockage and restores *Vata* balance. Reduction in exertional dyspnea and fatigue can also be attributed to the loss of body weight caused by the administration of *Guggulu* [9].

The pungent flavors, light and dry qualities, and dominant medications *Ushna*, *Virya* and *Katu-Vipaka* in *Navak Guggulu* have all the properties to break down the etiology of hyperlipidemia.

The mode of action of *Navak Guggulu* on *Sthaulya* can be explained as follows –

Sthaulya is a disease caused by the ingestion of *Kapha Vriddhikara Ahara*, *Vihara*, and *Manasa Nidana*. These elements disrupt *Jatharagni*, resulting in *Ama Annarasa* and *Medodhatvagnimandya*. *Sthaulya* is caused by excessive development and accumulation of *Medodhatu* because of this condition.

Dosha:- *Navak Guggulu* encounters *Vata & Kapha Dosha* by virtue of its *Katu-Rasa* dominance & *Ushna-Virya*. *Vatahara* action is also achieved by *Laghu* and *Snigdha* property.

Dushya:- *Meda & Kleda* are the chief culprits in *Sthaulya*. *Katu-Rasa* performs *Medo-Kledopa-Shoshana* action. *Sthairya Guna* of *Madhura Rasa* combats *Sharira Shaithilya*. *Ushna-Virya* also helps in *Kleda* and *Meda Vilayana* action.

Agni & Ama: - *Katu-Rasa*, *Ushna-Virya* encounters *Dhatvagnimandya* & potentiates the weakened *Dhatvagni* and help in *Amapachana* thereby alleviates *Aparipakwa* and *Ama Dhatu*.

On Srotas: All of the relevant channels are dilated as a result of *Katu-Rasa*, resulting in the "*Srotansi Vivrunoti*" activity. *Medovaha* and *Mamsavaha Srotodushti* are being watched over by *Katu-Rasa* and *Ushna-Virya*. Maximum elements in the nut cell of *Navaka Guggulu* have *Katu Rasa*, *Laghu*, *Ruksha*, and *Ushna Virya*, *Katu Vipaka*, *Vata Kapha shamaka*, *Karshana*, *Lekhanya*, *Medorogahara*, *Amapachana*, and *Dhatushoshana* qualities, which normalise *Agni's* state. As a result, *Jatharagni* was managed, which inhibited the excessive growth and buildup of *Medodhatu*, resulting in *Lakshana Upshamana* of the ailment *Medoroga*. Our classics claim that this is owing to the *Agni Mahabhuta Pradhana* [10] and *Ushna*, *Virya*, *Dipana*, *Pachana* effects of *Navak Guggulu*. The long-term treatment for *Jirna* and *Atisthulata* diseases was also outlined in the *Charaka Samhita*.

Unripe and undigested *Anna rasa* is referred to as an *Ama*. *Navak Guggulu* will inhibit further *Ama* formation and aid to break the basic pathology of *Medo Roga* by virtue of its *Katu*, *Tikta*, *Rasa*, *Laghu*, *Tikshna*, *Ruksha Guna*, and *Ushna Virya*. *Srotodushti* of the *Sanga* type is present in the disorder. The combination of *Laghu Guna*, *Tikta Rasa*, and *Ushna Virya* relieves *Dusti* the *Sanga* type and breaks *MedoRoga's Samprapti*. Other herbs with lipid-lowering properties include *Triphala*, *Pippali*, *Shunthi*, *Musta*, *Chitrak* and *Vidanga*. As a result, the entire composition had an antihyperlipidemic impact [8].

Varadi Kashaya Vati

Varadi Kashaya also known as Varadi Kwatha, is a well-known Ayurvedic herbal decoction used traditionally for the treatment of obesity. Varadi Kashaya Vati an Ayurvedic polyherbal decoction containing 6 ingredients. Consumption of Kapha Vriddhi Kara Ahara, Vihara, and Manasa Nidanas caused the ailment Sthaulya. These elements disrupt Jatharagni, resulting in Amaannarasa and Medodhatvagni-Mandya. The disease Sthaulya is caused by excessive development and accumulation of Medodhatu as a result of this situation [10].

Varadi Kashaya Vati

Drugs have Katu Tikta Rasa Pradhana, Laghu Ruksha Ushna Virya, Katu Vipaka, Kapha Vata Shamana, Durmedohara, Srotosodhana, Lekhaniya, Chedana, Deepana, Slightly Pachana qualities, which normalize the state of Agni, therefore regulated Jatharagni checks the excessive growth and accumulation of Medodhatu [11]. It breaks Sthaulya's Samprapti because of these qualities. Which brings Agni's status back to normal. Acts against Kapha, Kleda, and Meda by performing the function of Stroto - Vibandhanasana. Because of its Katu Rasa dominance and Ushna Virya, Varadi Kashaya Vati encounters Vata Kapha Dosha. It causes Medodhatva Agnideepan by virtue of its Laghu, Ruksha, Ushna, and Tikshna Gunas, while also removing Avaran of Meda on Vata Dosha and therefore restoring Jatharagni to normalcy. It removes

Abhishyanda from Srotas and absorbs excessive Kleda due to the aforementioned Gunas.

The Mode of Action of Varadi Kashaya Vati on Medoroga can be explained as follows

On Dosha: Because of its Katu-Rasa and Ushna-Virya, it acts on Vata and Kapha Dosha.

On Dushya: Sharira Shaithilya is achieved by Madhura Rasa's Shairya Guna. Ushna-Virya also assists in the actions of Kleda and Meda Vilayana.

On Agni & Ama: It causes Medodhatvaagni deepan by virtue of its Laghu, Ruksha, Ushna, and Tikshna Gunas, while also removing Avaran of Meda on Vata Dosha and therefore restoring Jatharagni to normalcy.

On Srotas: Katu-Rasa, Laghu Ruksha Guna of Vati resulting in the removal Medovaha Sroto obstruction. Maximum ingredients of Vati Haritaki, Amalaki, Bibhitaki, Chitrak, Nisha, have Amapachana, and Dhatu Shoshana qualities, which normalise Agni's state and helps in dissolution of Meda Dhatu which ultimately helps in breakage of pathogenesis.

Thus, in overall comparison of all the parameter showed that effect of Navak Guggulu was better on reduction of Weight, B.M.I., Skinfold thickness, Body circumference and Signs and Symptoms (Figures 1-3).

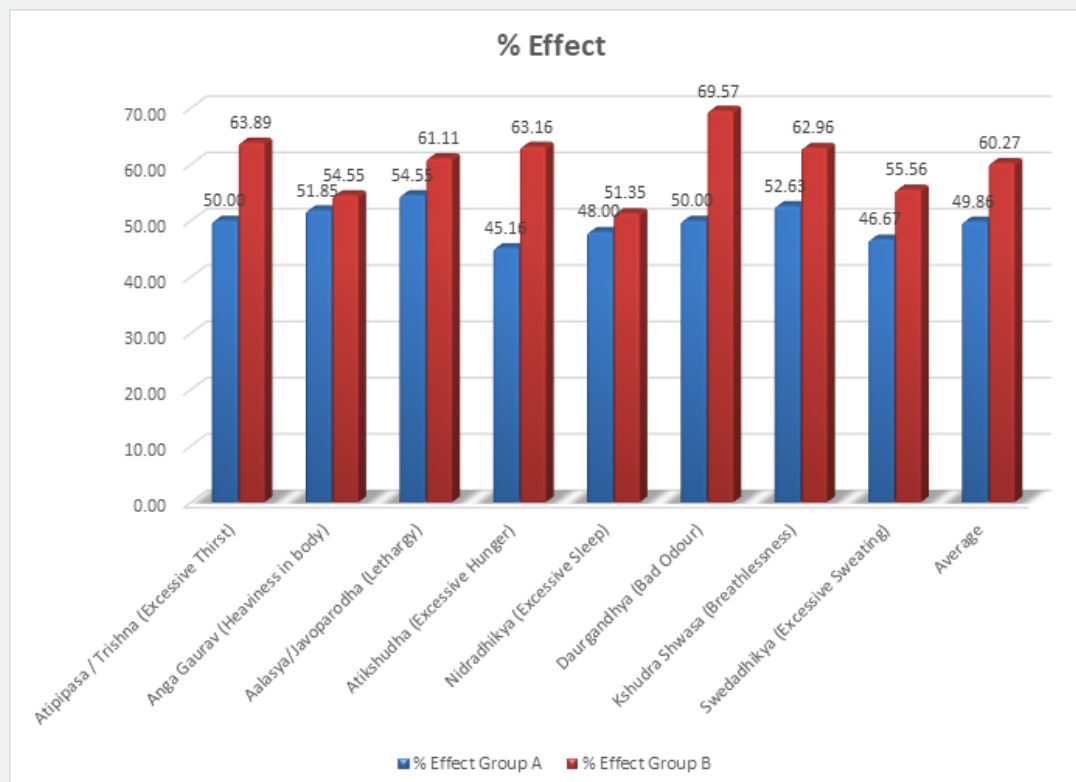


Figure 1: % Effect of Both Trial Drugs on Subjective Parameters.

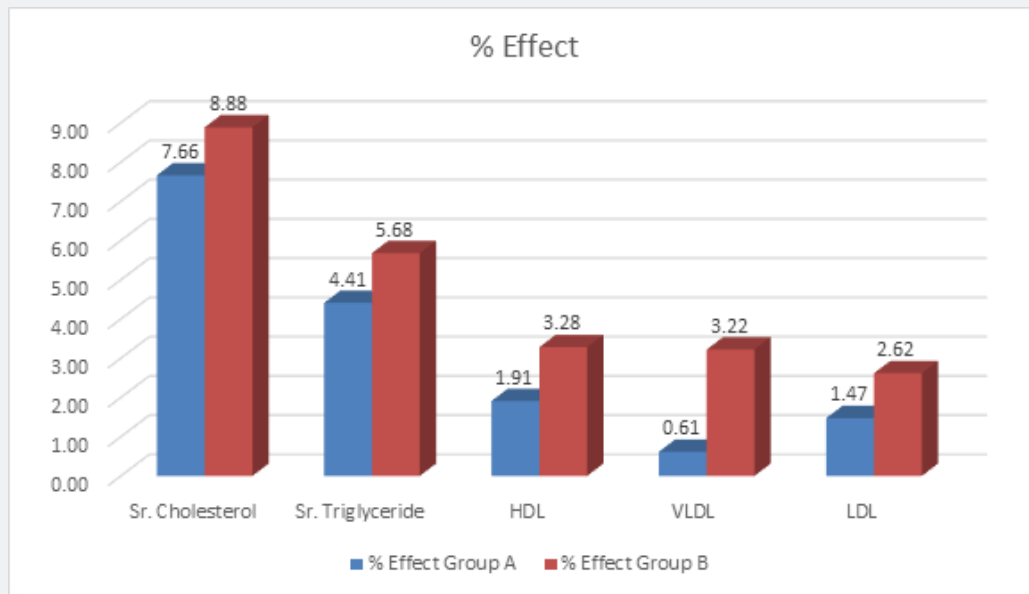


Figure 2: % Effect of Both Trial Drugs on Objective Parameters.

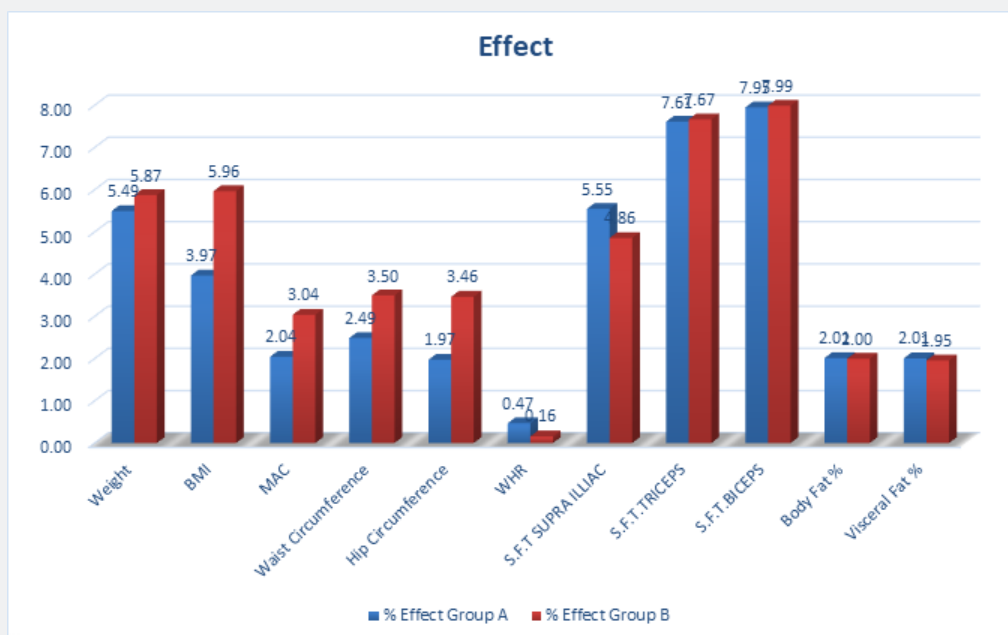


Figure 3: % Effect of Both Trial Drugs on Objective Parameters.

Conclusion

From above study this was concluded that etiological factors i.e., Dietary, Psychological & life style related mainly vitiate *Kapha Meda* which vitiated *obstruct* the path of *Vata* and causes its *Avarana* which results into provocation of *Vata*. Genetic factor, sedentary life style & *Kapha* predominant *Prakriti* were found

to increases the prevalence of Obesity. Therefore, the line of treatment should be *Kapha-Vata-Medo Hara & Apatarpanakara*. Hence, A Clinical study was done to evaluate the efficacy on *Navak Guggulu* and *Varadi Kashaya Vati* in the management of *Sthoulya* w.s.r. to Childhood obesity. The outcome of this present study revealed that *Navak Guggulu* which was advocated in *Group B* showed better result overall in comparison to *Varadi Kashaya Vati*

which was advocated in Group A. *Navak Guggulu* was found to have significant effect in reducing the symptoms of *Medo Dushti* and in reduction of objective parameters like weight, BMI, body circumferences and lipid profile.

References

1. Shastri K, Chaturvedi G, Charka Samhita (2011) Vidhyotini Hindi Commentary. Chaukhamba Bharti Academy, Varanasi, Sutra Sthana, Santarpaniyam-Adhyaya 23/6p-436.
2. Shastri K, Chaturvedi G, Charka Samhita (2011) Vidhyotini Hindi Commentary. Chaukhamba Bharti Academy, Varanasi, Sutra Sthana, Maharoga Adhyaya 20/17 pp. 405.
3. Shastri A (2018) Sushruta Samhita, Ayurvedtatva Sandipika Hindi Commentary. Chaukhamba Sanskrit Sansthan, Varanasi, Sutasthan 15/42 p.83.
4. Sahoo K, Sahoo B, Choudhury AK, Sofi NY Kumar R, Bhadoria AJ (2015) Childhood obesity: Causes and consequences. J Family Med Prim Care 4(2): 187–192.
5. Sahastra yogam Pratham prakran 63/10.
6. Shastri L, Yogaratankara with Vidyotini Hindi Commentary edited by Bhisagratna Brahmasankar Sastri, Medoroga Chiktas Verse no -1, Chaukhambha Prakashan, Varanasi, p. 97.
7. Shri Satya Narayan Shastri (Part 1) (2014) Charaka Samhita with elaborated Vidhyotini Hindi commentary Sutasthan Langhan-bruhmniya Adhyaya; chapter 22 verse 24; Varanasi Chaukhambha Bharty academy, pp. 429.
8. Vyas KY, Bedarkar P, Galib R, Prajapati PK (2017) Antihyperlipidemic activity of Navaka Guggulu prepared with fresh (Naveena) and old (Purana) Guggulu: A randomized clinical trial. Med J DY Patil Univ 10(3): 235-245.
9. Bhatt AD, Dalal DG, Shah SJ, Joshi BA, Gajjar MN, et al. (1995) Conceptual and methodologic challenges of assessing the short-term efficacy of Guggulu in obesity: Data emergent from a naturalistic clinical trial. J Postgrad Med 41(1): 5-7.
10. Sushruta, Sushruta Samhita, with the Commentaries, Nibandhasangraha of Dalhanacharya and Nyayachandrika of Sri Gayadasa, Edited by Yadavji Trikamji acharya Su.Su.15/16 (8th edn), Varanasi, Chaukhambha Orientalia, pp. 824.
11. J U Chinchu, Mohind C Mohan, S J Rahitha Devi, B Prakash Kumar (2018) Evaluation of anti-inflammatory effect of Varanadi Kashayam (decoction) in THP-1-derived macrophages. Ayu 39(4): 243–249.



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