



How Under-Nutrition (Karshya) is Responded to Ayurvedic Treatment: A Case Study

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Despite numerous global sensible corrective attempts to provide nutrition, undernutrition (Kaarshya) remains one of the most pressing issues. The bulk of the population in underdeveloped nations is undernourished. It is one of the main causes of death and morbidity in both children and adults. One of the eight components of primary health care in the worldwide campaign for health for all is the promotion of appropriate diet. A person who is malnourished is prone to a slew of problems. It is a condition in which the body's fat and muscles are depleted. This is why it is critical to treat it to restore the body's normalcy. With its unique approach to lifestyle management and medication therapy, Ayurveda, with its holistic perspective, can aid with this disease. Swasthavritta (Community Medicine) has a part in Kaarshya management. Ashwagandhadi avaleha acts as an excellent nutritional treatment to alleviate the symptoms of Kaarshya in youngsters. As a result, Ayurvedic therapy for Kaarshya was arranged. After one month of treatment, the patient gained 1.5 kg of weight, and the next month, i.e., the follow-up period, the patient exhibited substantial improvement in weight growth. Other anthropometric measures improved as a result of the therapy. The assessment was carried out over two months.

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Aim: To study the effect of *Ashwagandhadi avaleha* on BMI and weight in *karshya*.
Materials and Methods: This is a single case study on underweight female. *Ashwagandhadi avaleha* was given for two months. Anthropometric parameters such as weight, body mass index (BMI), hip circumference (HC) and mid-arm circumference (MAC) and subjective parameters were assessed before and after 2 months.
Result: Significantly increased in weight i.e. 2Kg was observed after two months.
Conclusion: Regular intake of *Ashwagandhadi avaleha* significantly increases weight and body mass index in *Karshya*.

Keywords: Under-nutrition; *Karshya*; *Ashwagandhadi avaleha*, nutrition.

1. INTRODUCTION

According to contemporary research, *Karshya* is associated with being underweight. Body mass index (BMI) is a basic weight-for-height metric that is frequently used to categorize adults as underweight, overweight, or obese. It is estimated by measuring the in kg by the height in meters square (kg/m²). Underweight people have a BMI of less than 18.50 kg/m² and have a reduced risk of co-morbidities, but their risk of other clinical problems is higher. A typical person's BMI is from 18.50 to 24.99 kg/m², and they have an average risk of co morbidities [1].

Diseases attack *Atisthula* and *Atikarshya purushas* at all times. Slimming and nourishing treatments are used to treat them. *Karshyatwa* is less harmful than *Atisthula*.

“Sthaulyataukarshye varam karshyam samopakarnau hi tau Yadubhau vyadhiragacchaeta sthulamevatipeedyet”

Although both of them require therapy.

Aacharya Charakahas stated eight types of *Nindita Purushas* (undesirable person). *Atikarshya Purush* is one of them. *Rooksha annapan* (consumption of dry food and drinks), *Langhana* (fasting for long time), *Pramitashana* (taking very less quantity of food), *Kriyaatiyaga* (excessive *panchakarma* therapies), *Shoka* (grief), *Vega nidra vinigraha* (suppression of natural urges including sleep), *Rooksha udavartana* (dry powder massage), *Snana* (repeated bath), *Prakruti* (heredity), *Jara* (old age), *Vikaranushaya* (continued illness due to some disease) and *Krodha* (anger) are the causes of *karshya* [2].

Pleeha (spleenic disorders), *Kasa* (cough, cold), *Kshaya* (muscle wasting), *Shwasa* (asthama), *Gulma* (abdominal tumours), and *grahanigata roga* are common in these people (diseases of small intestine and duodenum). Their buttocks, stomach, and neck are all underweight, veins are visible soft tissue, joints are visible, and the person has been bone and skin only [3].

Ayurveda is known as the "science of life." The ultimate goal of Ayurveda is to help every human being in maintaining and promoting health, as well as preventing illnesses, which are the greatest inhibiting factor to achieving dharma. The medication *Ashwagandhadi Avaleha* is specifically used in the treatment of *karshya*, as described in *Sahasrayogam* [4].

1.1 Aim and Objectives

1. To study the effect of *Ashwagandhadi avaleha* on *Karshya*.
2. To study the effect of *Ashwagandhadi avaleha* on BMI and weight.

2. MATERIALS AND METHODS

2.1 Case Report

A 6-year-old female child came with complaints OF loss of weight for 2 months and Associated complaints include loss of appetite, general weakness for 15 days. The patient was healthy 3 months back. Gradually he developed loss of appetite & general weakness in the body. For that, he consulted local doctor and took allopathic treatment but could not get any relief. So for further management, patient was admitted to Ayurveda hospital for further treatment.

Table 1. Personal history

Personal History	
Dinacharya	
Time of getting up in the morning	At 6 am
Face wash including tooth brushing(Mukha prakshalana)	One daily
Attaining toilet, Bowelevacuation habit (Vagothsarga)	Use to evacuate daily
Doing Physical exercise (Vyayama)	Not performing
Taking Breakfast	Tea, biskit, poha, upma
Afternoon regimen (Madhyanha charya)	
Lunch (Madhyana bhojana)	Roti & subji/ rice with daal
Night regimen (Ratri charya)	
For many days patient is having disturbed sleep	
Rules & regulations while intake o food (Bhojana vidhi)	
Not followed	
Nutritional status	
Poorly built and poorly nourished	
Family History	
All family members are said to be healthy	

Table 2. General examination

On Physical examination of the patient, the following characteristic features were noted

General examination	
B.P	100/70 mm of Hg
Pulse	90 pulse/min
Temperature	Afebrile
R.R. rate	24/min, clear.
Weight	16 kg
Height	114cm
BMI	12.31 Kg/m ²
Assessment of Nutritional Status	
Anthropometric assessment	
Mid-arm circumference	14 cm
Chest circumference	55 cm
Abdominal circumference	25 cm
Waist-Hip Ratio (W: H ratio)	0.20 cm
Mid-thigh circumference	26.5 cm

Table 3. Dash vidha pariksha

Dash vidha pariksha	
Prakriti Pariksha	Vata-Pitta vikriti
Dosha Pariksha	Vata vruddhi, Pitta-kapha kshaya
Dooshya Pariksha	Rasakhsaya leading to uttarottara dhatu kshaya especially mamsa & meda
Saatmya Pariksha	Madhyam
Satwa Pariksha	Madhyam
Saara Pariksha	Rasa Sara
Pramana Pariksha	Height-114cm, Wt-16kg BMI-12.31 Kg/m ²
Samhanana Pariksha	Avara (Poorly Built)
Vyayama Shakti Pariksha	Avara
Aahara Pariksha	Abhyavarana Shakti-Madhyam Jarana Shakti- Madhyam
Vaya Pariksha	Baal i.e. 6 yrs

Table 4. Ashta Sthaana Pariksha

Ashta Sthaana Pariksha	
Naadi Pariksha	90/ min, Praakruta
Mala Pariksha	1-2 times/ day, Regular
Mutra Pariksha	2-3 times/ day
Shabda Pariksha	Prakrutha
Sparsha Pariksha	Pariksha
Jivha Pariksha	Nirama (Alipta)
Akriti Pariksha	Poorly built and poorly nourished

Table 5. Samprapti ghataka

Samprapti ghataka	
Dosha	Vata- pittaja
Dooshya	Rasa, Mamsa, Meda
Agni	Jatharagni (Manda & Vishama)
Ama	Jataragni mandhya janya Ama
Srotodushti Prakara	Sanga
Udbhva Sthaana	Amashaya
Vyakta Sthaana	Sarva shareera
Sanchara Sthaana	Sarva shareera, rasayanees
Vyadhi bheda	Chirakari

- **Diagnosis:-** The patient was diagnosed as **Kaarshya (undernutrition)**
- **Plan / Management of the disease (Chikitsa yojana):**

Adopting *chikitsa sootra explained by ayurveda in this disease context:*

1. Brihmana chikitsa (nourishing therapy).
2. Advising diet (*pathya ahara –vihara*) in respect to this disease:

Treatment planned: *curative treatment (shamana oushadhi chikitsa)*

Chitrkadi vati 1-----0-----1 before lunch
Tab- Liv-52 D.S⁴ 0-----1-----0 before lunch

3. Ashwagandhadi avaleha [5]

15mg divided into two doses with milk; two times a day ie, early morning & evening time.

Type of food/diet planning (Ahara pravicharana):

1. Lagu ahara/ Snigdha ahara / Dwikaalika ahara/ dravottara ahara is advised.
2. Advice to follow Ahara vidhi Vidhana correctly

Table 6. Food/diet to be consumed (Ahara roopi Pathya)

Food / diet to be consumed (Ahara roopi Pathya)	
In Shooka Dhaanya varga (cereals)	Dhanya, Yava, Godhuma
In Shimbi dhanya varga (pulses)	Mudga, Soya
Mamsa varga (in non-veg)	Jangala-anoopa-oudaka praanija mamsa rasa (kruta)
Go-rasa varga (in animal product)	Go-dugdha & ghrita
Jala varga (in water)	Sukhoshna jala / kwathita jala
Shaaka varga (in vegetable)	Paalakya, Methika
Taila varga (in oil)	Tila taila
Phala varga (in fruits)	Draaksha, Dadima, Kushmanda
Vyanjana varga (various dishes)	Jeeraka, ajamoda.....

Table 7. Vihara roopi pathya

Vihara roopi pathya:	
Vyayama	Playing/loosening exercises / walking
Abhyanga	With Mahamasha taila / Tila taila etc

Table 8. Apathya ahara

Apathya ahara:	
Rookshya ahara	
Rooksha paana	
Pramitashana	
Upavasa	

Table 9. Follow up results

Follow up	Follow up
After one month (14-09-2020)	After two months (14-10-2020)
Anthropometric assessment:	Anthropometric assessment:
Mid arm circumference 15.2 cm	Mid arm circumference 16.3 cm
Chest circumference 56 cm	Chest circumference 56.4 cm
Abdominal circumference 27 cm	Abdominal circumference 28 cm
Mid-thigh circumference 27.2 cm	Mid-thigh circumference 28.3 cm
Ht—114.2cm (constant)	Ht—114.2cm (constant)
Wt – 18kg	Wt – 20 kg
BMI= 13.80kg/m ²	BMI= 15.34kg/m ²
Aharashakti pareeksha: Pravara	Aharashakti pareeksha: Pravara
Vyayamashakti pareeksha: Pravara	Vyayamashakti pareeksha: Pravara

Table 10. Diet menu in Kaarshya these diets are subject to change daily, options are provided to patient

Diet menu in Kaarshya These diets are subject to change daily, options are provided to patient	
Breakfast	Godanna/Rasodana/Kheeroddhrita Shaali Go-dugdha/ Mahisha dugdha Kadali phala
Lunch:-	Godhooma rotika (2) with Paalakya vyanjana Annna with Mudga / Masoora yoosha Takra
Evening:	Tea/ milk
Dinner:	Go-dhooma rotika (2) with kushmanda vyanjana/methika vyanjana Annna with Mudga kritayoosha Go-dugdha (before retiring to bed)
Nidra	Gives mental & physical rest Diwaswapna prohibited Sleeping time

2.2 Advised Therapy and its Basis

The different areas of the body (for example, the abdomen and buttocks) are emaciated in Karshya Mansa and Meda dhatu. As an outcome, increased diet is required for the management of Karshya, Mansa, and Meda dhatus. In this example, the patient received only food control and no pharmaceutical therapy. Ashwagandhadi avaleha was used for nutritional management. For two months, this avaleha was taken on an empty stomach in the morning (between 6 and 8:00 a.m.) at the time of breakfast and in the evening (5-7:00 p.m.). The nutritional value of Ashwagandhadi avaleha is extremely high. It is rich in proteins, lipids, carbs, fibers, iron, calcium, and phosphorus. According to Ayurveda, it is bala and pushtivardhak [6]. That is why the Ashwagandhadi avaleha was selected for the research. Diet therapy was the only treatment used in this case. The normal range of BMI is 18.50 to 24.99Kg/m².

3. OBSERVATION AND RESULTS

Significantly increased in weight i.e. 2Kg was observed after two months of regular intake of *Ashwagandhadi avaleha*. Effect of *Ashwagandhadi avaleha* on weight and

Changes in the anthropometric parameters before and after treatment are shown in table number 9. The results were assessed using weight, BMI and other subjective parameters.

4. DISCUSSION

The bulk of people in underdeveloped nations have *apatarpana janya vikara (rasapradoshaja vikara)*. This is due to a shortage of healthy food and a lack of understanding about its value. Poverty and a lack of personal cleanliness are two major contributing causes to the kaarshya's appearance. Adults may suffer from malnutrition owing to a lack of important nutrients such as *proteins, carbs, vitamins, minerals, and other micronutrients*. Because Kaarshya patients are prone to infections, therapy should focus on meeting their nutritional needs. The content *Ashwagandhadi avaleha* is a nutritional medicine that has *guru, snigdha guna, sheeta veerya, kaphavardhaka, vatashamaka, and brijhmana qualities*, is cheap, easy to administer, tasty, and may be used for a long time.

4.1 Chitrakadi vati [6]

Because of the use of the active component *Chitraka*, the formulation was given the name

'Chitrakadivati' (*Plumbago zeylanica* Linn). In Sanskrit literature, the word 'Chitrakadi' means 'fire or Agni,' since it boosts digestive fire or 'agni,' which aids in the removal of ama and the prevention of indigestion and other digestive problems caused by a lack of digestive fire (i.e., Mandagni). The major karmas are *Deepana, Pachana, Rechana, Anulomana, Grahi, Shulahara, and Shothahara*. The herbal components in the powerful composition assist to maintain the balance of *Samanavata* and *Kapha* and play an important role in efficiently *cleansing ama* from the body, leading to *Agni Sandushanam* (which improves the digestive power). This increases the rate of medication absorption while also enhancing *Dhatwagni*. As a result, we can see the role of karma in *Chikitsa's growth*.

Liv 52 - Improves poverty by increasing the liver function to secrete more bile, which aids in the digestion of ingested food and hence aids in weight gain. Liv -52 is a potent appetite stimulant, hemopoiesis booster, and anabolic agent.

Aswagandhadi avaleha helps with nidra, utsahahani, ayase shrama, alasyata, dhamanijaala darshana, abhyavarana shakti, jarana shakti, and vyayama shakti. It also raised anthropometric measures such as BMI, abdomen circumference, waist-hip ratio, mid-arm circumference, and mid-thigh circumference significantly.

5. CONCLUSION

As a result, in this situation, Ashwagandhadi Avleha operates on both agni and poshaka rasa. When administered as an anupana through the go-ksheera, it can nourish all the tissues of the body by raising the adya dhatu, ie, rasadhatu. Kaarshya is a chronic illness that requires long-term therapy to be effective. Other than focusing on the treatment elements of this condition, it is recommended that the socioeconomic situation and nutrition education awareness be improved.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline parental consent and ethical approval has been collected and preserved by the authors.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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