

Effect of Kushmanda Rasayana in Kaarshya

Sanjeev S. Tonni*, Shivakumar**, T.B. Tripathy***

Abstract

Kaarshya is one of the burning problems in spite of many global wise remedial measures, which have been adopted to provide nutrition. It is a condition of the depletion of the fat as well as muscles in the body. This is the reason why the treatment of it is highly necessary to restore the normalcy of the body. A majority of the population in the developing countries suffer from malnutrition and under nutrition. It forms one of the leading causes of mortality and morbidity in children as well as in adult population. In the global campaign of health for all, promotion of proper nutrition is one of the 8 elements of primary health care. Ayurveda with its holistic approach can help in this condition with its unique way of lifestyle management and the drug therapy.[1,2,7] Swasthavritta has a role to play in the management of the *Kaarshya*.

Keywords: *Kaarshya, Swasthavritta and Kushmanda Rasayana*

Introduction

Kushmanda Rasayana act as an effective nutritional remedy to over come the problems faced by adults suffering from *Kaarshya* which was explained in ayurvedic classic.[4] Hence the study was carried out to see the efficacy of Kushmanda Rasayana in preventing the *Kaarshya* with the following aims & objectives.

- 1) To evaluate the effect of *Kushamanda Rasayana* in improving the nutritional status in *Kaarshya*
- 2) To study the concept of *Santharpana*.

Materials and Methods

Source of data

30 patients of *Kaarshya* were selected from the OPD and IPD of the SDMCA & Hospital, Hassan.

Methods of collection of data

Patients of *Kaarshya* will be selected irrespective of the sex, caste and religion between the age groups of 18 years to 40 years & exhibiting BMI < 18kg/m². Selected patients were divided in two groups.

Group A: 15 patients were administered with Kushmanda Rasayana 50gm in divided doses of 25 mg twice a day, before food with luke warm milk.

Group B: 15 patients, who were given a placebo 500 mg capsule, B.I.D with luke warm milk before food The study period was 2 months for patients of both groups.

During the study period previous medication which ever consumed by the patient for gaining of weight were discontinued. Assessment was conducted once in 15 days for a period of 60 days.

Author's Affiliation: *Asst. Professor, Dept. of Swasthavritta, K.L.E. University's Shri B.M. Kankanawadi Ayurveda Mahavidyalaya, Shahapur, Belgaum-590003, Karnataka, **Professor, ***Professor, Dept. of Swasthavritta, S.D.M. College of Ayurveda & Hospital, Hassan, Karnataka, India.

Reprint's Request: Dr. Sanjeev S. Tonni, Asst. Professor, Dept of Swasthavritta, K.L.E.University's Shri.B.M.Kankanawadi Ayurveda Mahavidyalaya, Shahapur, Belgaum-590003, Karnataka, India.

E-mail: email:sanjeevtonni@yahoo.com

Follow up study

Follow up was done for one month after the study period during which no medicine were administered.

Inclusion criteria

Patients of Kaarshya were selected irrespective of the sex, caste and religion between the age groups of 18 years to 40 years, exhibiting BMI < 18.

Exclusion criteria

Kaarshya patients secondary to any illness such as, DM, Cardiac diseases, HIV infection etc are excluded from the study.

Diagnostic criteria

Patients with BMI < 18 kg/m², signs & symptoms exhibiting kaarshya[3,4] explained in the classics were considered as a diagnostic criteria of the disease.

Assessment criteria

Improvement was assessed once in 15 days for two months with following assessment Criteria.

1. Improvements in signs and symptoms of Kaarshya.
2. The Subjective and objective criteria used for the study are as follows.

Subjective Parameters

Various features of *Karshya*[3,4] had been considered and grading was given to analyze the results statistically as follows.

Gradation for assessment criteria:

Agni Shakti (includes abhyavarana shakti & jarana shakti)

Abyhvaharan shakti

Normal intake of food..... 0
Eats 25% less than the normal..... 1

Eats 50% less than the normal..... 2
Eats 75% less than the normal..... 3
The person not at all taking food..... 4

Jarana shakti

Scoring according to Jeernaahar Lakshana i.e., Udgar shuddhi, Utsaha, Vega pravrutti, Laghuta & Kshuth - pipasaa

Presence of all symptoms..... 0
Presence of 4 symptoms..... 1
Presence of 3 symptoms..... 2
Presence of 2 symptoms..... 3
Presence of 1 symptom..... 4

Nidra

Normal sleep of 7 - 8 hrs/night..... 0
Sleep for 5-6 hrs/night..... 1
Sleep for 4-5 hrs/night..... 2
Sleep for 3-4 hrs/night..... 3
No sleep..... 4

Utsaha

Un-impaired Utsaha..... 0
On desire can work sluggishly but properly 1
On desire can work sluggishly but improperly..... 2
No desire to do work..... 3

Ayase shrama

Absent..... 0
Exhaustion on moderate work..... 1
Exhaustion on mild work..... 2
Exhaustion even at rest..... 3
Exhaustion even with routine work..... 4

Alasya

No Alasya..... 0
Delay in the initiation of work..... 1

Delay in the initiation of work as well as completion of work..... 2
 Unable to start any work..... 3

Dhamani jaal darshana

Invisible..... 0
 Only on extremities..... 1
 Extremities & face..... 2
 Extremities, face, trunk..... 3
 Whole body..... 4

Hand grip exercise for 5 minute count

Normal (70-80 counts for 5 minutes)..... 0
 If patient does the Hand grip exercise 60-70 counts for 5 minute..... 1
 If pt does the Hand grip exercise 50-60 counts for 5 minute..... 2
 If pt does the Hand grip exercise 40-50 counts for 5 minute..... 3

Foot pressure exercise for 5 minute count

Normal (60-70 counts for 5 minutes)..... 0
 If pt does the foot pressure exercise 50-60 counts for 5 minute..... 1
 If pt does the foot pressure exercise 40-50 counts for 5 minute..... 2
 If pt does the foot pressure exercise 30-40 counts for 5 minute..... 3

Walking time for 200 mtr distance

Normal (4 - 5 minutes for 200 mtr distance)..... 0
 0
 5 - 6 minute..... 1
 6 - 7 minute..... 2

Objective parameters

Following objective parameters are also included for the study.

1) *Anthropometry parameters:*

Anthropometric assessment in kaarshya includes the following.

- Body mass index (BMI)
- Waist/ hip ratio (WHR)
- Body weight (kg)
- Neck circumference (cm)
- Mid arm circumference (cm)
- Abdominal circumference (cm)
- Waist: Hip Ratio
- Mid-thigh circumference (cm)

2) *Clinical parameters:* Patients will be assessed on symptom rating scale for symptomatic relief in certain symptoms like Agnibala, Vyayama Shakti, Utsaha, Alasya, Nidra & Ayaase Shrama.

3) *Laboratorial parameters:* Hb%, TC, Serum protein and albumin assessment were done in terms of before and after the treatment.

Results

Results were shown separately as a intra group.

Table showing distribution of results of Group -A

Anthropometric values

Table 1							
Statistical test	Wt	BMI	N.C	MA.C	ABD.C	W-H.R	MT.C
B.T	47.16	17.45	32.10	22.57	63.83	0.79	43.00
A.T	48.15	17.82	32.57	23.17	65.63	0.85	43.53
S.D	0.44	0.17	0.32	0.37	0.98	0.03	0.27
"p" value	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Subjective & Objective symptoms

Table 2											
Statistical test	DJD	ABHY.S	JARA.S	WT-200 mtr distance	HGE for 5 min	FPE for 5 min	Nidra	Alasya	Utsaha	Ayase shrama	
B.T	1.33	0.93	1.67	1.60	2.00	2.27	0.80	1.80	1.40	1.47	
A.T	1.13	0.53	1.20	0.93	1.20	1.53	0.53	0.93	0.73	1.00	
S.D	0.41	0.51	0.51	0.49	0.64	0.59	0.68	1.08	0.82	0.64	
"p" value	<0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.10	<0.01	<0.001	<0.01	

Exercise tolerance test (ETT) - to climb stairs for:

Table 3												
Statistical test	Pulse			B.P-systolic			B.P- diastolic			Resp.rate		
	1min	3min	5min	1min	3min	5min	1min	3min	5min	1min	3min	5min
B.T	81.33	84.47	88.87	113.13	115.80	120.20	75.27	78.00	81.07	20.20	23.53	27.13
A.T	78.73	81.40	86.00	116.93	119.40	122.67	76.93	78.53	80.53	16.87	19.27	23.13
S.D	1.79	2	1.67	3.79	5.34	3.00	2.90	3.62	1.74	0.90	0.88	1.56
S.E	0.46	0.52	0.43	0.98	1.38	0.77	0.75	0.94	0.45	0.23	0.23	0.40
"p" value	<0.001	<0.001	<0.001	<0.001	<0.02	<0.001	<0.02	<0.10	<0.001	<0.001	<0.001	<0.001

Haemetological values

Table showing distribution of results of Group -B

A) *Anthropometric values*

Table 5								
Statistical test	Wt	BMI	N.C	MA.C	ABD.C	W-H.R	MT.C	
B.T	46.12	16.23	30.77	21.90	61.63	0.79	43.20	
A.T	47.41	16.73	31.70	22.80	64.37	0.87	44.07	
S.D	0.47	0.15	0.32	0.39	1.07	0.04	0.48	
"p" value	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

B) *Subjective & objective symptoms*

Table 6										
Statistical test	DJD	ABHY.S	JARA.S	WT-200 mtr distance	HGE for 5 min	FPE for 5 min	Nidra	Alasya	Utsaha	Ayase shrama
B.T	1.47	1.53	1.60	1.87	2.67	2.67	0.87	2.07	1.47	1.93
A.T	0.60	0.20	0.20	0.60	0.93	1.20	0.13	0.67	0.47	0.60
S.D	0.64	0.72	0.63	0.59	0.70	0.83	0.70	0.72	0.65	0.49
"p" value	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

C) *Exercise tolerance test (ETT)- to climb stairs for*

Table 7												
Statistical test	Pulse			B.P-systolic			B.P- diastolic			Resp.rate		
	1min	3min	5min	1min	3min	5min	1min	3min	5min	1min	3min	5min
B.T	80.67	3.60	88.40	111.73	115.27	119.47	73.60	71.87	79.67	19.73	23.40	32.13
A.T	77.60	79.80	84.13	117.07	119.07	123.73	78.67	79.60	81.33	16.60	18.47	22.13
S.D	2.07	2.40	2.78	5.33	4.24	2.77	2.99	2.34	1.94	1.10	3.10	18.65
"p" value	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.10	<0.05	<0.001	<0.001	<0.10

Haemetological values

Results

Effect of Kushmanda Rasayana

Kushmanda Rasayana provided significant relief in Nidra (84.29%), Utsaha Hani (68.03%), Ayase Shrama (69.08%), Alasyata (64.52 %), Dhamani Jaal Darshana (59.09%), Abhyavarana Shakti (86.96%), Jarana Shakti (87.50%), Vyayama Shakti in terms of walking time for 200mtr distance (67.86%), hand grip exercise for 5 minute (65.25%) and foot pressure exercise for 5 minutes (55%). It also significantly increased Anthropometric measurements like weight (2.79%), neck circumference (3.08%), abdomen circumference (4.43%), waist-hip ratio (9.15%), mid-arm circumference (4.11%), mid-thigh circumference (4.61%) and B.M.I

minutes (40%), foot pressure exercise for 5 minute (32.65%). Anthropometric measurements like weight (2%), neck circumference (1.35%), abdomen circumference (2.72%), waist-hip ratio (5.99%), mid-arm circumference (2.51%), mid-thigh circumference (1.16%) and B.M.I (1.98 %). In Haemetological parameters such as Hb% (7.18%), total count of WBC (7.76%), total serum protein (14.82%), & total serum albumin (14.41%) significant relief was seen.

Discussion

In this clinical study Group A (*Kushmanda Rasayana*) around 26.66% of the patients got marked improvement followed by, 33.33% of moderate improvement and 26.66% of patients showed mild improvement.

Group B (Placebo): Around 20% of the patients got moderate improvement followed by 47% of mild improvement and 33% of patients did not showed any improvement.

Overall Result

In the present study, Kushmanda Rasayana group showed significant improvement in

Statistical test	Hb% (11.40)	Hematology (5.38)	Total serum protein (80.76)	Total serum albumin (6.67)
B.T	11.40	80.13	33.33	6.74
A.T	11.67	80.76	67.81	7.81
S.D	0.32	3.68	1.19	0.32
"p" value	0.000	0.000	0.000	<0.001

Effect of Placebo

Placebo provided significant relief in Nidra (25%), Utsaha Haani (47.62%), Ayase Shrama (31.82%), Alasyata (44.44%), Dhamani Jaal Darshana (15%), Abhyavarana Shakti (42.86%), Jarana Shakti (36%), Vyayama Shakti in terms of walking time for 200mtr distance (41.67%), hand grip exercise for 5

Improvement	Group A	%	Group B	%
Total cure	0	0	0	0
Good improvement	4	26.66%	0	0
Marked improvement	5	33.33%	0	0
Moderate improvement	2	13.33%	3	20%
Mild improvement	4	26.66%	7	47%
No change	0	0	5	33%