

# Impact of Consistent and Standardized Administration of *Peyadi Samsarjana Krama* in Post-*Vamana-Virechana* (Dietary Regimens Post Emesis and Purgation Therapies) Protocols: A Quasi-Randomized Control Trial

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## ABSTRACT

**Background:** *Ayurveda*, an ancient holistic health system, underscores personalized well-being through tailored approaches to health and disease. The post *Vamana-Virechana* procedures are vital in *Ayurvedic* detox, promoting balance and toxin elimination. *Peyadi Samsarjana Krama* (dietary regimen), a recognized *Ayurvedic* formulation, shows promise in supporting post *Vamana-Virechana* (post emesis and purgation therapies). However, the use of standardized serving sizes is still an area requiring exploration and research. **Aim and Objectives:** To establish a uniform serving size for *Peyadi Samsarjana Krama* based on *deha pramana* (body frame) and *agni bala* (digestive capacity). To assess the impact of the standardized serving size compared to the conventional serving size of *Peyadi Samsarjana Krama*. **Materials and Methods:** The study, conducted at KLE Ayurveda Hospital and Medical Research Centre in Karnataka, included 240 individuals undergoing *Vamana/Virechana* with *Madhyama Shudhi*. Using computer-generated randomization, subjects were divided into two groups: the control group (Group 1) received the regular serving of *Samsarjana krama* and the study group (Group 2) received the standardized serving, each group comprising 120 subjects. **Results:** In both groups, subjective parameters such as headache, hunger, giddiness and lethargy were assessed. In Group 1, 58% experienced headaches on the first day morning, while in Group 2, 93-96% were headache-free at both times. Lethargy was present in 47.9% in Group 1 on day 5 evening, while Group 2 had 73.6% to 96.7% without lethargy on all 5 days. Statistically significant results were obtained. FBS and RBS levels were higher (B=1.44) in the Standardized Serving Size, significantly so (B=4.37,  $p<0.05$ ) compared to the regular serving size. **Conclusion:** The study group (Group 2), which received the standardized serving of *Samsarjana Krama*, demonstrated greater effectiveness and better tolerance compared to the control group (Group 1).

**Keywords:** *Vamana, Virechana, Peyadi Samsarjana Krama, Madhyama Shudhi.*

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## INTRODUCTION

The term "*Panchakarma*" denotes a set of five therapeutic procedures within *Ayurveda*, specifically aimed at internally purifying the body by expelling accumulated morbid *Dosha* through the most accessible route. According to *Ayurveda* principles, maintaining health involves achieving a balance of *Dosha, Dhatu, Jatharagni* and ensuring the elimination of *Mala* through defecation.<sup>1</sup>

The term "*Samsarjana Krama*" is derived from three distinct words. "*Sam*" is a prefix meaning "best" or "proper," and "*Sarjana*" signifies upgrading or increasing. "*Krama*" denotes a series, proceeding, course, order or step. According to M. Monier Willums' dictionary, "*Samyak*" translates to proper or in a good way and "*Krama*" denotes order. Consequently, *Samsarjana Krama* can be understood as a series of dietary practices aimed at enhancement or an ordered approach to dietary increase. It's noteworthy that the classical *Ayurveda* texts don't explicitly mention the term "*Samsarjana*." The term is introduced by *Chakrapani*, a commentator, in his commentary on *Charaka Samhita*.<sup>2</sup>

Since *Acharya* has not provided a specific definition for *Samsarjana Krama*, it can be briefly described as a set of strict



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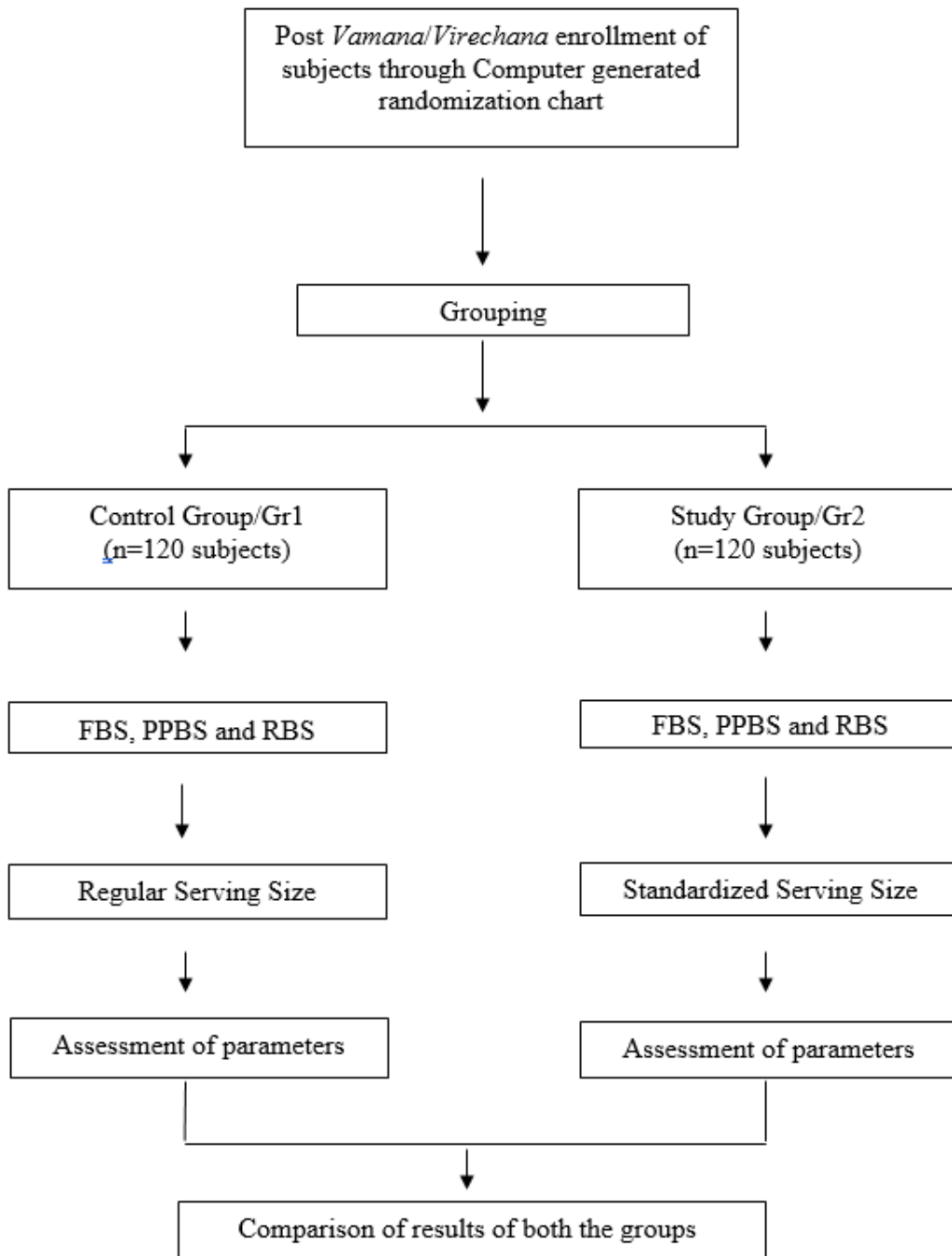
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and well-defined post-*Shodhana* dietary regimens intended for individuals to restore disturbed *Agni* (digestive power) to normalcy, *Snehapana* (oral intake of ghee) and *Langhana* (emaciating therapies).<sup>3</sup> *Ayurvedic* texts outline various methods of *Samsarjana Krama*, including *Peyadi Samsarjana Krama*,<sup>4</sup> *Tarpanadi Samsarjana Krama*,<sup>5</sup> and *Rasa Samsarjana Krama*.<sup>6</sup>

The *Jatharagni* plays a crucial role in sustaining *Oja* and life and any disturbance in it can lead to the onset of diseases. Following *Panchakarma*, particularly *Vamana* and *Virechana*, the *Jatharagni* becomes disrupted and weakened, potentially causing a decline in the patient's strength. It is not advisable to immediately resume a regular diet during this diminished state of

*Jatharagni* post-*Samshodhana*. Instead, a specific dietary regimen known as *Samsarjana Krama* is implemented. This involves a gradual reintroduction of food, progressing from light (*Laghu*) to heavy (*Guru*) *Ahara* in accordance with *Shudhi*. This step-by-step approach aims to enhance *Jatharagni* (digestive power), provide systematic nourishment to the patient and facilitate adaptability across all systems of the body. If the patient fails to adhere to proper precautions and a regulated diet, it can result in various complications. To prevent these complications following *Samshodhana Krama*, the *Samsarjana Krama* is crucial and advantageous. *Acharya Charaka* emphasizes the significance of *Agni* in *Samsarjana Krama* with an analogy: Just as a small



**Table 1: Samsarjana Krama diet served at KLE Ayurveda Hospital, Belagavi.**

Sl. No.	Ahara Kalpana	Quantity served at one time	Anna Kala (No. of servings 8)
1	<i>Peya</i>	400 mL	2
2	<i>Vilepi</i>	250 g	2
3	<i>Akruta mudga yusha</i> (with <i>Vilepi</i> )	200 g	1
4	<i>Kruta mudga yusha</i> (with <i>Vilepi</i> )	200 g	1
5	<i>Akruta Soya yusha</i> (with <i>Vilepi</i> )	200 mL	1
6	<i>Kruta Soya yusha</i> (with <i>Vilepi</i> )	200 mL	1

fire when kindled gradually, with substances Like dry grass and cow dung, becomes robust and stable, similarly, in the case of *Jatharagni* after *Vamana Krama* and *Virechana Krama*, the *Peyadi Krama* enables *Jatharagni* to efficiently digest all kinds of food.<sup>7</sup>

*Samsarjana Krama* and *Krama* should not be equated, as *Krama* refers to any procedure, while *Krama* denotes a specific numbering sequence that must be adhered to. *Peya*, a more liquid substance with lower carbohydrate content, is easily digestible. In contrast, *Vilepi*, a semi-solid preparation, has a thicker consistency and includes rice particles, resulting in higher carbohydrate content. *Mudga yusha*, a green gram soup, is prepared in the *Akruta* form without the addition of salt and *Ghruta*, while in the *Krita* form, salt and *Ghruta* are included, providing simple plant proteins.

*Mamsarasa*, a mutton soup, is prepared in the *Akruta* form for simpler proteins, while the *Krita Mamsarasa* contains complex proteins such as animal proteins and fats. *Rasa Samsarjana Krama* is typically employed following *Peyadi Samsarjana Krama*. *Tarpanadi Krama* is used for the *Tarpana* of the patient, aiming to nourish the *Dhatu* of the *Samshodhita Purusha* (an individual who has undergone *Vamana* and *Virechana*).<sup>4,5</sup>

The administration of *Peyadi Samsarjana Krama* involves a meticulous balance of herbal ingredients, each selected for its specific therapeutic properties. These components synergistically aim to optimize digestive functions, enhance metabolic processes and promote overall rejuvenation following the cleansing procedures of *Vamana* (therapeutic emesis) and *Virechana* (therapeutic purgation). To advance our understanding of the therapeutic efficacy of *Peyadi Samsarjana Krama* in post *Vamana-Virechana* protocols, a Quasi-Randomized Control Trial has been designed. This study seeks to investigate the impact of a standardized and regular serving size of *Peyadi Samsarjana Krama* on key health parameters, including digestive function, metabolic balance and overall well-being. The trial aims to provide valuable insights into the potential benefits of consistent dosing, offering a foundation for refining *Ayurvedic* post-detoxification practices and enhancing the holistic care of individuals undergoing these traditional therapies. Through a rigorous and scientific approach, this research endeavours to contribute to the evidence-based integration of *Ayurvedic* principles into contemporary healthcare practices.

## MATERIALS AND METHODS

The research took place at KLE Ayurveda Hospital and Medical Research Centre in Shahapur, Belagavi district of Karnataka, utilizing a Quasi Randomized Control Trial design. A sample of 240 individuals, aged 18 to 50, who were apparently healthy or ill and undergoing *Vamana/Virechana* with *Madhyama Shudhi*, was randomly chosen. Subsequently, the 240 subjects were split into two groups based on interventions. Both the Control Group (Group 1), receiving a regular serving size of *Peyadi samsarjana krama* and the Study Group (Group 2), receiving a standardized serving size of *Peyadi samsarjana krama*, consisting of 120 subjects each. The randomization process was carried out using a computer-generated randomization method (Table 1).

### Method of Standardisation of Samsarjana Krama

Standardized *Samsarjana Krama* diet was derived after a rigorous and meticulous assessment carried out on 81 subjects by following steps;

The subjects were served the *Samsarjana Krama* diet as per regular serving size which is followed or practiced at KLE Ayurveda Hospital Belagavi as below;

Here 400 mL of *peya* is served to the subject or the patient who underwent *Samshodhana Krama* as per his proper hunger. The time of consumption of *peya* is noted and later observed for the next hunger time. During this hunger subject or patient should exhibit the *Jeernahara Lakshana* (digestion) and this was recorded in hours and minutes.

Twelve-hour dose or serving size was calculated on the lines of *Sneha Pana* dose fixation which is as follows;

$$\frac{\text{Quantity Consumed x for 12 hr how many mL}}{\text{hr taken for Jeernahara Lakshana (digestion)}}$$

### For example

$$\frac{400 \text{ mL } \textit{Peya} \text{ (Rice gruel) consumed}}{3 \text{ hr (Need for Jeernahara Lakshana)}} = 1600 \text{ mL}$$

This 1600 mL was served to him/her for consumption as per hunger in divided doses either 2 or more servings and this 1600 mL of *Peya* is the fixed maximum dose for that particular subject/patient. He/she should not exceed this quantity which is fixed for him during that period.

The same calculation pattern was followed to all remaining *Samsarjana Krama* diets like *Vilepi*, *Akrita Yusha*, *Krita Yusha*, *Akrita Soya Yusha*, *krita Soya Yusha*.

For standardization of dose in *Pravara*, *Madhyama* and *Avara Deha Pramana* subjects as per *agni* was calculated as follows.

81 subjects enrolled in the study, in different *Deha Pramana* groups. Standardized quantity of *peya* to be supplied to particular *dehapramana* was calculated by following method. Summation of quantity calculated for all the members of particular *dehapramana* and particular *agni* divided by number of subjects in that particular *Deha Pramana* with *agni*.

Ex. Suppose 6 *Pravara Dehapramana* subjects with *samagni* had consumed the following quantities of *peya* as 1200 mL, 1250 mL, 1300 mL, 1400 mL, 1500 mL and 1600 mL. The standardized dose of *Samsarjana Krama* is calculated by summation of the quantity of *peya* consumed will be 8250 mL which divided by 6 (subjects/patients) and the answer will be 1375 mL.

In the same manner standardized dose of remaining *Samsarjana* diets like *vilepi*, *akruta* and *kruta yusha*, *akruta and kruta soya yusha* for different *deha pramana* were calculated. These standardized doses were given to post *vamana/virechana* in group 2 i.e. study group.

## Methodology

Following classical *Vamana* and *Virechana Krama*, participants in control or group 1 received the customary portion of *Samsarjana Krama*, a practice conducted at KLE Ayurveda Hospital Shahapur Belagavi for duration of 5 days with 8 *anna kala*. The preparation method adhered to classical procedures. Meanwhile, participants in the study or group 2 received a standardized serving size of *Samsarjana Krama* based on the specified inclusion criteria. In both groups, subjective assessment parameters including headache, food cravings, giddiness and lethargy, as well as objective parameters such as fasting blood sugar, postprandial blood sugar and random blood sugar, were evaluated on the first day of the *Samsarjana Krama* regimen.

## Inclusion criteria

- Age group of 18 to 50 years of both sexes.
- Subjects undergoing classical *Vamana/ Virechana (Madhyama Shuddhi)*.

## Exclusion criteria

- *Sadyo Vamana/Sadyo Virechana*.
- Subjects with *Vaman/Virechana Vyapat* (complications).
- Subjects with Diabetes mellitus.
- Known cases of food incompatibilities.

## Procedure

It is an Interventional Randomized Controlled trail where Control group of subjects will be served the regular size of *Samsarjana Krama* for 5 days with 8 *anna kala* (food servings). Which inturn consists of *Peya-2*, *Vilepi-2*, *Akruta mudga yusha-1*, *Kruta mudga yusha-1*, *Soya yusha-1*, *Soya yusha-1* serving. Quantity at Servings are *Peya* 400 mL, *Vilepi* 250 g, *Mudga yusha* 200 mL, *Soya yusha-200* mL. Trial group subjects will be served as the standardized serving size.

## Subject assessment and categorization

Subjects will be categorised on the bases of *Deha Pramana* (body frame) into *Pravara*, *Madhyama* and *Avara*. Inturn these categories will be sub divided on the basis of *Agni i.e Samagni*, *Teekshnagi*, *Mandagni*. In total subjects will be categorised into 9 factors as shown in Tables 1 and 2.

*Deha pramana* or Body Frame assessment was assessed by height, weight and BMI of the subjects and the Methodology used for standardization of *samsarjana krama* is followed as per the method used by sandeepsagare, et al.<sup>8</sup>

## Preparation of *Peyadi Samsarjana Krama*

All the preparations used in *Samsarjana Krama* were prepared as per the preparation methods explained in the classics and served to the subjects.

**Table 2: Categorisation of subjects based on *Dehapramana* and *Agni*.**

Sl. No.	<i>Deha pramana</i>	<i>Agni</i>
1	<i>Pravara</i>	<i>Samagni</i>
2		<i>Teekshnagi</i>
3		<i>Mandagni</i>
4	<i>Madhyama</i>	<i>Samagni</i>
5		<i>Teekshnagi</i>
6		<i>Mandagni</i>
7	<i>Avara</i>	<i>Samagni</i>
8		<i>Teekshnagi</i>
9		<i>Mandagni</i>

## Sample size

Stratified sampling with optimum allocation of the different structure of the body Study

$$n = \frac{Z^2 \times SD^2}{(20)^2 SD^2}$$

$$n = \frac{(1.96)^2}{0.04} \times 1.2 \quad N = 120$$

This is the sample size reducing 20% attrition and 95% confidence level

## Statistical analysis

Between the groups assessment of non-parametric variables like headache etc. will be through the chi-square test and within group assessment will be through Mac-nimar test. Parametric variables like blood glucose estimation will be assessed through repeated measure ANOVA. All tests will be considered statistically significant at  $p < 0.05$ .

## Assessment Parameters

Assessment parameters are the different untoward effects frequently encountered during conventional *Samsarjana Krama* practice were;

Subjective Parameters:

- Head ache
- Hunger
- Giddiness
- Lethargy
- Objective Parameters
- FBS, PPBS and RBS on Day of *Vamana* and *Virechana*.

## RESULTS

Table 3 illustrates the distribution of subjects in two groups: Regular Serving Size and Standardized Serving Size, based on *Ahara-Vihara* of *Samsarjana Krama*

Table 4 presents a visual representation of the occurrence of headaches in the morning and evening for individuals consuming regular and standard serving sizes of *Samsarjana Krama* on different days.

Table 5 depicts the occurrence of morning hunger in individuals following both regular and standard serving sizes of *Samsarjana Krama* across different days.

Table 6 depicts the morning giddiness experienced by individuals following both regular and standard serving sizes of *Samsarjana Krama* on different days.

**Table 3: Distribution of subjects in Regular and standardized Serving Size groups by *Ahara-Vihara*.**

Ahara-Vihara		RS	SS	Total
		N (%)	N (%)	N (%)
Diet	Veg	39(32.5)	34(28.3)	73(30.4)
	Mixed	81(67.5)	86(71.7)	167(69.6)
<i>Ahara Matra</i>	<i>Alpa</i>	9(7.5)	5(4.2)	14(5.8)
	<i>Madhyama</i>	100(83.3)	97(80.8)	197(82.1)
	<i>Pravara</i>	11(9.2)	18(15)	29(12.1)
<i>Ahara Sevana Kala</i>	Two meals per Day	12(10.0)	14(11.7)	26(10.8)
	Three meals per day	93(77.5)	89(74.2)	182(75.8)
	More than 3 meals per day	15(12.5)	17(14.2)	32(13.3)
Sleep	Sound	112(93.3)	117(97.5)	229(95.4)
	Disturbed	8(6.7)	3(2.5)	11(4.6)
Life style	Moderate	43(35.8)	49(40.8)	92(38.3)
	Household work	13(10.8)	10(8.3)	23(9.6)
	Sedentary	60(50)	55(45.8)	115(47.9)
	Heavy	4(3.3)	6(5)	10(4.2)
<i>Ahara Shakti</i>	<i>Pravara</i>	14(11.7)	14(11.7)	28(11.7)
	<i>Madhyama</i>	105(87.5)	104(86.7)	209(87.1)
	<i>Avara</i>	1(0.8)	2(1.7)	3(1.3)
<i>Koshtha</i>	<i>Mrudu</i>	6(5)	7(5.8)	13(5.4)
	<i>Madhyama</i>	106(88.3)	104(86.7)	210(87.5)
	<i>Krura</i>	8(6.7)	9(7.5)	17(7.1)

Ahara-Vihara		RS	SS	Total
		N (%)	N (%)	N (%)
Dehapramana	Avara	15(12.5)	11(9.2)	26(10.8)
	Madhyama	74(61.7)	70(58.3)	144(60)
	Pravara	31(25.8)	39(32.5)	70(29.2)
Agni	Mandagni	25(20.8)	25(20.8)	50(20.8)
	Samagni	73(60.8)	65(54.2)	138(57.5)
	Teekshnagni	22(18.3)	30(25)	52(21.7)

Note: RS: Regular Serving Size of *Samsarjana Krama*, SS: Standardized Serving Size of *Samsarjana Krama*.

**Table 4: Head ache in the morning and evening among regular and Standard Serving sizes of *Samsarjana Krama* according to Days.**

Head Ache		Morning		Evening	
		Regular Serving Size N (%)	Standardized Serving Size N (%)	Regular Serving Size N (%)	Standardized Serving Size N (%)
Day 1	No	40 (33.6)	112 (93.4)	102 (84.9)	114 (95)
	Mild	70 (58)	4 (3.3)	6 (5)	4 (3.3)
	Moderate	10 (8.4)	4 (3.3)	11 (9.2)	2 (1.7)
	Severe Craving	0 (0)	0 (0)	1 (0.8)	0 (0)
Day 2	No	115 (95.8)	118 (98.3)	114 (95)	116 (96.7)
	Mild	3 (2.5)	1 (0.8)	1 (0.8)	2 (1.7)
	Moderate	2 (1.7)	1 (0.8)	5 (4.2)	2 (1.7)
	Severe Craving	0 (0)	0 (0)	0 (0)	0 (0)
Day 3	No	113 (94.1)	117 (97.5)	105 (87.4)	116 (96.7)
	Mild	4 (3.4)	2 (1.7)	5 (4.2)	3 (2.5)
	Moderate	3 (2.5)	1 (0.8)	10 (8.4)	1 (0.8)
	Severe Craving	0 (0)	0 (0)	0 (0)	0 (0)
Day 4	No	101 (84)	114 (95)	114 (95)	118 (98.3)
	Mild	12 (10.1)	1 (0.8)	3 (2.5)	1 (0.8)
	Moderate	6 (5)	5 (4.1)	3 (2.5)	1 (0.8)
	Severe Craving	1 (0.8)	0 (0)	0 (0)	0 (0)
Day 5	No	63 (52.1)	114 (95)	100 (83.2)	116 (96.7)
	Mild	53 (44.5)	5 (4.1)	10 (8.4)	2 (1.7)
	Moderate	4 (3.4)	1 (0.8)	9 (7.6)	2 (1.7)
	Severe Craving	0 (0)	0 (0)	1 (0.8)	0 (0)

Table 7 demonstrates the occurrence of morning lethargy among individuals following the regular and standard serving sizes of *Samsarjana Krama* across different days.

Table 8 illustrates the outcomes of a Generalized Linear Model, specifically examining the impact of Standardized Serving size compared to Regular Serving on blood glucose levels.

## DISCUSSION

As per *Acharya Chakrapani*, not only *Vamana* and *Virechana*, but also other *Panchakarma* techniques like *Basti*, *Nasya* and *Raktamokshana* are recommended for *Shodhana* purposes. However, in a busy lifestyle, it becomes challenging to

consecutively undergo all these therapies. If an individual undergoes *Shodhana* procedures once a year, it can lead to overall health benefits throughout the entire year.

According to our investigation, both groups exhibited subjective symptoms such as headache, hunger, giddiness and lethargy. In the first group, 58% experienced headaches on the morning of the first day, while in the second group, 93-96% reported an absence of headaches at both time points. Severe cravings were observed in more than 45.4% of the first group in the morning on days 1 and 5 and over 47.1% in the evening, whereas over 90% of the second group had no complaints. Mild giddiness was reported by 44.5% in the first group during the morning and 43.7%

**Table 5: Morning Hunger among Regular and Standard Serving Size of *Samsarjana Krama* according to Days.**

Hunger		Morning		Evening	
		Regular Serving Size N (%)	Standardized Serving Size N (%)	Regular Serving Size N (%)	Standardized Serving Size N (%)
Day 1	No	102 (84.9)	105 (87.6)	43 (36.1)	102 (85.1)
	Mild	8 (6.7)	13 (10.7)	6 (5)	5 (4.1)
	Moderate	4 (3.4)	2 (1.7)	14 (11.8)	13 (10.7)
	Severe Craving	6 (5)	0 (0)	57 (47.1)	0 (0)
Day 2	No	105 (87.4)	117 (97.5)	104 (87.4)	119 (99.2)
	Mild	9 (7.6)	3 (2.5)	8 (6.7)	1 (0.8)
	Moderate	4 (3.4)	0 (0)	2 (5)	0 (0)
	Severe Craving	2 (1.7)	0 (0)	1 (0.8)	0 (0)
Day 3	No	105 (87.4)	96 (80.2)	97 (81.5)	114 (95)
	Mild	3 (2.5)	11 (9.1)	8 (6.7)	4 (3.3)
	Moderate	8 (6.7)	13 (10.7)	11 (8.4)	2 (1.7)
	Severe Craving	4 (3.4)	0 (0)	4 (3.4)	0 (0)
Day 4	No	57 (47.9)	117 (97.5)	103 (86.6)	108 (90.1)
	Mild	8 (6.7)	3 (2.5)	6 (5)	1 (0.8)
	Moderate	2 (1.7)	0 (0)	8 (5.9)	11 (9.1)
	Severe Craving	53 (43.7)	0 (0)	3 (2.5)	0 (0)
Day 5	No	61 (51.3)	114 (95)	105 (87.4)	106 (88.4)
	Mild	4 (3.4)	5 (4.1)	5 (4.2)	13 (10.7)
	Moderate	0 (0)	1 (0.8)	7 (5.9)	1 (0.8)
	Severe Craving	55 (45.4)	0 (0)	3 (2.5)	0 (0)

**Table 6: Morning Giddiness among Regular and Standard Serving Size of *Samsarjana Krama* according to Days.**

Giddiness		Morning		Evening	
		Regular Serving Size N (%)	Standardized Serving Size N (%)	Regular Serving Size N (%)	Standardized Serving Size N (%)
Day 1	No	66 (55.5)	120 (100)	113 (95)	120 (100)
	Mild	54 (44.5)	0 (0)	5 (3.4)	0 (0)
	Moderate	0 (0)	0 (0)	2 (1.7)	0 (0)
	Severe	0 (0)	0 (0)	0 (0)	0 (0)
Day 2	No	117 (97.5)	120 (100)	119 (99.2)	120 (100)
	Mild	2 (1.7)	0 (0)	1 (0.8)	0 (0)
	Moderate	1 (0.8)	0 (0)	0 (0)	0 (0)
	Severe	0 (0)	0 (0)	0 (0)	0 (0)
Day 3	No	119 (99.2)	120 (100)	65 (54.6)	120 (100)
	Mild	1 (0.8)	0 (0)	53 (43.7)	0 (0)
	Moderate	0 (0)	0 (0)	2 (1.7)	0 (0)
	Severe	0 (0)	0 (0)	0 (0)	0 (0)

Giddiness		Morning		Evening	
		Regular Serving Size N (%)	Standardized Serving Size N (%)	Regular Serving Size N (%)	Standardized Serving Size N (%)
Day 4	No	116 (96.6)	120 (100)	119 (99.2)	120 (100)
	Mild	3 (2.5)	0 (0)	1 (0.8)	0 (0)
	Moderate	1 (0.8)	0 (0)	0 (0)	0 (0)
	Severe	0 (0)	0 (0)	0 (0)	0 (0)
Day 5	No	117 (97.5)	120 (100)	66 (55.5)	120 (100)
	Mild	2 (1.7)	0 (0)	53 (43.7)	0 (0)
	Moderate	1 (0.8)	0 (0)	1 (0.8)	0 (0)
	Severe	0 (0)	0 (0)	0 (0)	0 (0)

**Table 7: Morning Lethargy among Regular and Standard Serving Size of *Samsarjana Krama* according to Days.**

Lethargy		Morning		Evening	
		Regular Serving Size N (%)	Standardized Serving Size N (%)	Regular Serving Size N (%)	Standardized Serving Size N (%)
Day 1	No	59 (49.6)	110 (91.7)	99 (82.4)	89 (73.6)
	Relieved by rest.	6 (5)	8 (6.6)	9 (7.6)	29 (24.8)
	Not relieved by rest, limiting instrumental ADL (e.g., Preparing meals, shopping and managing money.	54 (44.5)	1 (0.8)	8 (6.7)	1 (0.8)
	Not relieved by rest, limiting self-care ADL (e.g., Bathing, dressing/ undressing, feeding self, using the toilet.	1 (0.8)	1 (0.8)	4 (3.4)	1 (0.8)
Day 2	No	109 (90.8)	118 (98.3)	114 (95)	116 (96.7)
	Relieved by rest.	6 (5)	1 (0.8)	3 (2.5)	2 (1.7)
	Not relieved by rest, limiting instrumental ADL (e.g., Preparing meals, shopping and managing money.	5 (4.2)	1 (0.8)	2 (1.7)	1 (0.8)
	Not relieved by rest, limiting self-care ADL (e.g., Bathing, dressing/ undressing, feeding self, using the toilet.	0 (0)	0 (0)	1 (0.8)	1 (0.8)
Day 3	No	110 (91.6)	110 (91.7)	115 (95.8)	113 (94.2)
	Relieved by rest.	3 (2.5)	9 (7.4)	2 (1.7)	6 (5)
	Not relieved by rest, limiting instrumental ADL (e.g., Preparing meals, shopping and managing money.	4 (3.4)	1 (0.8)	2 (1.7)	1 (0.8)
	Not relieved by rest, limiting self-care ADL (e.g., Bathing, dressing/ undressing, feeding self, using the toilet.	3 (2.5)	0 (0)	1 (0.8)	0 (0)

Lethargy		Morning		Evening	
		Regular Serving Size N (%)	Standardized Serving Size N (%)	Regular Serving Size N (%)	Standardized Serving Size N (%)
Day 4	No	59 (49.6)	114 (95)	103 (85.7)	94 (78.5)
	Relieved by rest.	6 (5)	5 (4.1)	9 (7.6)	25 (20.7)
	Not relieved by rest, limiting instrumental ADL (e.g., Preparing meals, shopping and managing money.	55 (45.4)	1 (0.8)	6 (5)	1 (0.8)
	Not relieved by rest, limiting self-care ADL (e.g., Bathing, dressing/ undressing, feeding self, using the toilet.	0 (0)	0 (0)	2 (1.7)	0 (0)
Day 5	No	113 (94.1)	111 (92.6)	56 (47.1)	116 (96.7)
	Relieved by rest.	3 (2.5)	7 (5.8)	2 (1.7)	2 (1.7)
	Not relieved by rest, limiting instrumental ADL (e.g., Preparing meals, shopping and managing money.	4 (3.4)	1 (0.8)	58 (47.9)	1 (0.8)
	Not relieved by rest, limiting self-care ADL (e.g., Bathing, dressing/ undressing, feeding self, using the toilet.	0 (0)	1 (0.8)	4 (3.4)	1 (0.8)

**Table 8: Results of Generalized Linear model: Effect of Standardized Serving size over Regular Serving on Blood glucose levels.**

Parameter	B	Std. Error	p-value	95% Confidence Interval	
				Lower Bound	Upper Bound
Dependent Variable: FBS					
Intercept	93.101	1.239	0.00	90.66	95.54
Groups					
Regular Serving Size					
Standardized Serving Size	1.446	0.781	0.066	-0.09	2.99
Dependent Variable: PPBS					
Intercept	116.361	1.598	0.00	113.212	119.51
Groups					
Regular Serving Size					
Standardized Serving Size	1.799	1.008	0.076	-0.188	3.786
Dependent Variable: RBS					
Intercept	134.243	2.357	0.00	129.599	138.888
Groups					
Regular Serving Size					
Standardized Serving Size	4.37	1.487	0.004	1.44	7.3

experienced it in the evening. In the second group, no participants reported giddiness in either the morning or evening on all days. On the morning of days 1 and 4 in the first group, 44.5% were free from lethargy, while in the second group, over 91.7% were not lethargic on all 5 days. In the evening of day 5, 47.9% in the first group experienced lethargy, whereas in the second group, 73.6%

to 96.7% were free from lethargy on all 5 days. The results were statistically significant. Fasting Blood Sugar (FBS) and Random Blood Sugar (RBS) levels were higher in the Standardized Serving Size group (B=1.44) compared to the Regular Serving Size and this difference was significantly higher (B=4.37,  $p<0.05$ ) in the Standardized Serving Size group.

According to research conducted by Yemalwad *et al.*, (2023),<sup>9</sup> a critical aspect of *Ayurveda* treatments lies in *Panchakarma*, a therapeutic approach aimed at preventing and treating diseases while preserving overall health. This therapy, deemed valuable for its effectiveness, encompasses five procedures serving various purposes. Among these, *Virechana* and *Vamana Karma* stand out as significant therapeutic measures within the *Panchakarma* system. Specifically designed for addressing imbalances in *Kapha* and *Pitta doshas*, these therapies utilize drugs with *Tikshna*, *Sukshma* and *Ushna* properties, effectively balancing and eliminating morbid *Pitta*, *Kapha* and *Vata doshas*. Moreover, they aid in the removal of toxins from the body. *Virechana* and *Vamana Karma* are instrumental in managing a range of diseases classified under the umbrella of *Shodhana Chikitsa*.

Dr. Rajendra Garg *et al.*<sup>10</sup> The *Jatharagni* is the source of life and *Oja* and when it is vitiated, ailments arise. *Jatharagni* becomes diminished after *Vamana* and *Virechana*, in such a state of reduced *Jatharagni*, regular food is difficult to digest, hence it is not advised to resume it right after *Samshodhana*. In this scenario, a unique food plan known as *Samsarjana Krama*-which translates to a suitable sequence of *Peya-Vilepi-Krita-akrita Yusha-Krita-akrita Mamsarasa* are followed after the administration of *Vamana Karma* or *Virechana Karma*.

After *Samyak Shudhi* (proper purification), *Samsarjana Krama* can commence on the same day. Depending upon *Pradhana*, *Madhyama* and *Avar Shuddhi* (purification). *Annakala* are mentioned i.e., in *Pradhana Shuddhi* 3 *Annakala* for 7 days, in *Madhyama Shuddhi* 2 *Annakala* for 5 days and in *Heena Shuddhi* 1 *Annakala* for 3 days of *Peya*, *Vilepi*, *Akrutakruta Yusha*, *Akrutakruta Mamsa Rasa* are been given.<sup>11</sup>

Every *Samshodhita Purusha* must practice *Samsarjana Krama*, as it will help to assist in conquering the *Dosha-Dhatukshaya* and restoring the strength of *Jatharagni*, which has been weakened by the purifying process. By setting up such plans, the diet consisting of all the tastes can be served through meals and *Dosha* becomes normal. It also normalizes the *Jatharagni* and *Vayu*, provides nutrition and helps to normalize the body tissues, which are weakened due to *Samshodhana*.<sup>12</sup>

## CONCLUSION

*Samsarjana Krama* is a sequential dietary regimen administered following *Vamana* and *Virechana Karma* (therapeutic emesis and purgation), aimed at enhancing *Jatharagni*, i.e., the digestive power of the body. It is essential for individuals undergoing *Samshodhana* (purificatory) procedures and plays a crucial role in regulating weakened *Jatharagni* caused by the purification process. The advantages of *Samsarjana Krama* include normalizing *Jatharagni* and *Vayu*, offering nourishment and restoring weakened body tissues resulting from *Samshodhana*. The standardized serving size of *Samsarjana Krama* is one of

the unique methods of serving the diet, which maintains the Fasting Blood Sugar (FBS) and Random Blood Sugar (RBS) levels higher than the regular serving group. This method reduces subjective symptoms like headache, cravings for food, giddiness and lethargy, so this standardized dose of *Samsarjana Krama* based on body frame and Agni can be adopted in post-*Vamana/Virechana* procedures.

## Scope of the study

The present study unveiled a better trend for standardized servings over regular practice, this trend can be still streamlined through in-depth work analysis of individual preparations and newer biochemical analysis.

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## ETHICS APPROVAL AND CONSENT TO PARTICIPATE

KAHER/Ethic/2018-19/ID/22

## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

## ABBREVIATIONS

**FBS:** Fasting Blood Sugar; **RBS:** Random Blood Sugar; **PPBS:** Postprandial Blood Sugar **Gr:** Group; **RS:** Regular Serving size; **SS:** Standardized Serving size.

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