



## Research Article

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### CLINICAL STUDY ON EFFECT OF BHAVITA TRIVRUT CHURNA AS VIRECHAKA YOGA IN HEALTHY INDIVIDUALS

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Received on: 30/06/17 Accepted on: 23/08/17

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DOI: 10.7897/2277-4343.085273

#### ABSTRACT

Virechana is a Shodhana Karma by which vitiated Doshas are expelled through Adhobhaga. Trivrut is considered as best among all Virechaka Dravya. The routinely practiced Virechaka Yogas (purgative medicines) are of high dose, less palatable. Hence there is need to formulate a Yoga with more palatability & efficacy in smaller dosage. In this study Virechana (purgation) with Trial Drug Bhavita Trivrut Churna was considered. The aim of study was to evaluate the efficacy of Trivrut Churna as Virechaka yoga, to evaluate the efficacy of Trivrut Kashayabhavita Trivrut Churna as Virechaka yoga and to compare the efficacy of Trivrut Churna and Trivrut Kashayabhavita Trivrut Churna as Virechaka Yoga. 30 healthy individuals were selected and divided into two groups. Protocol for Deepana Pachana, Snehapana (internal oleation), Visharama Kala was same for both the groups. Trivrut Churna (24 gms) and Bhavita Trivrut Churna (12gms) as trial drug were given in Group 1 and 2 respectively. All the parameters like Samyak Virikta Lakshana, Antiki Shuddhi and Vitals were almost same in both the groups except the Vegiki Shuddhi, as the present study was found statistically significant by Cochran Q test for Samyak Virikta Lakshana in both groups with significance of p value <0.005 that is highly significant. Based on the data it can be concluded that Bhavita Trivrut Churna is efficacious as much as Plain Trivrut Churna, so Bhavita Trivrut Churna may be used as a Virechaka yoga for healthy individuals.

**Keywords:** Bhavita Trivrut Churna, Virechana, Healthy individuals, Virechaka Yoga.

#### INTRODUCTION

Virechana (purgation) is one among the Shodhana (detoxification) procedure which is used for Atura (diseased) as well as Swastha (healthy). Virechana is a prime modality of Shodhana Karma (detoxification) by which vitiated Doshas are expelled through Adhobhaga (anal route) <sup>1</sup>. Whenever an individual indulges in Ahara (food) and Vihara (regimen) which provoke a particular Dosha in its aggravated stage, may produce disorders. So, Shodhana (detoxification) becomes mandatory choice in order to eliminate the same. Shodhana is advocated periodically in order to prevent diseases like obesity, digestive disturbances, diabetes mellitus, skin disorders, insomnia, and psychiatric illness. For instance, accumulated Pitta may produce disorders of Pitta if it is not eliminated in Sharad Ritu. The vitiated Dosha, if removed in their Sanchaya Avastha itself, they will not go to their next stages, where they gain strength. If they are not eliminated in time then they may unite with Dushya like Rasa and produce grave disorders. So Shodhana is very important for healthy individuals for prevention from seasonal diseases.

Trivrut is considered as best among all Virechaka Dravya. <sup>2</sup> The ideal medicine for Shodhana is one which is given in Alpamatra (less dosage), induces Mahavega, Bahudoshahara, Sukha-Shodhaka, Laghu-paka, and Sukha-Swada. <sup>3</sup> The routinely practiced Virechaka Yogas are of high dose and less palatable. Bhavana-Samskara enhances the potency of the drug and thus reduces the dose. <sup>4</sup> Trivrut is having Kashaya and Madhur Rasa (sweet), Ruksha (dry) in Guna (property) and its Vipaka is Katu <sup>5</sup> Trivrut is combined with other Kapha, Vata, Pittahara dravya and with Samsakar it can be used for all types of diseases <sup>6</sup>. There are 110 yogas of Trivrut is mentioned in Charaka Samhita <sup>7</sup>. So,

the study was carried on Bhavita Trivrut Churna to assess the efficacy as Virechaka Yoga in healthy individuals. The study was carried out in two groups. After the screening for inclusion and exclusion criteria 30 subjects were allocated randomly in two groups comprising 15 individuals in each. One group was administered with Trivrut Churna 24 Grams and second group was administered with Bhavita Trivrut Churna 12 grams. Statistically significant results were obtained after analysis in both the groups but in terms of Palatability, Antiki Shuddhi, Laingiki Shuddhi Lakshana Bhavita Trivrut Churna Group was found better in lesser dosage. No untoward effects were observed during the study. It may be opined that the Bhavita Trivrut Churna can be used as Virechaka yoga in Healthy Individuals.

#### Aims and objectives

1. To evaluate the efficacy of Trivrut Churna as Virechaka yoga.
2. To evaluate the efficacy of Trivrut Kashayabhavita Trivrut Churna as Virechaka yoga.
3. To compare the efficacy of Trivrut Churna and Trivrut Kashayabhavita Trivrut Churna as Virechaka yoga.

#### MATERIALS AND METHODS

**Sample source-** 30 Healthy volunteers were randomly selected from O.P.D & I.P.D of Sri Dharmasthala Manjunatheshwara college of Ayurveda & hospital, Hassan.

**Ethical clearance-** obtained from Institutional Ethics committee of Sri Dharmasthala Manjunatheshwara college of Ayurveda, Hassan, Karnataka. IEC number- SDM/IEC/72/2014-15. CTRI number CTRI/2017/08/009361

**Drug source-** Required drug was procured from SDM Pharmacy of Udupi, and authenticated by Department of Dravya Guna SDM college of Ayurveda Hassan and prepared in SDM teaching Pharmacy Hassan.

Preparation of medicine

#### **Preparation of Virechaka Yoga Trivrut Churna**

Moola Twak of Trivrut has been separated from the whole Root then Moola Twak has been pounded in Khalva Yantra (Mortar with pestle) in order to make coarse powder. With help of Pulveriser Coarse powder has been converted into fine powder. The obtained fine powder has been stored in Packaging of 24 grams in airtight containers.

#### **Preparation of Bhavita Trivrut Churna**

**Bhavaya Dravya:** Trivrut Churna 250 grams

**Bhavana Dravya:** Trivrut Kashaya prepared out of 250 grams Yavkuta Trivrut Churna

Trivrut Kashaya (decoction) preparation- Pounded Yavakuta Churna of Trivrut has been boiled with water i.e. 250 grams Yavakuta churna in 2000 ml of water (1:8 ratio), and reduced to 1/4<sup>th</sup>.

Bhavana-Fine powder of Trivrut was taken into Khalva and 3 Bhavana (trituration) of Trivrut Kashaya was given. After completion of each Bhavana the Bhavita churna was allowed to dry for whole night. Then next Bhavana has been given. Each day fresh kashaya has been prepared for bhavana.

Duration of Bhavana-Bhavana was given for three days

1<sup>st</sup> day – 3 hours

2<sup>nd</sup> day- 4 hours

3<sup>rd</sup> day- 4 hours 30 mins

Trituration was done continuously until it attained solid consistency. This was considered one Bhavana. After Bhavana the Churna has been Shade-dried & converted into fine powder with Grinder and sieve. Trivrut kashaya bhavita Trivrut Churna was stored in packaging of 15 grams each in airtight containers.

#### **Changes observed in the Bhavita churna during Bhavana**

Before Bhavana it was yellowish white in colour and normal in smell. During Bhavana the colour became darker and was having some unpleasant smell. After Bhavana the Churna has been dried. In dried Churna colour remained dark but unpleasant smell reduced.

#### **METHOD OF COLLECTION OF DATA**

**Study design-** Randomized comparative clinical study.

**Sample size-** A minimum of sample size of 30 healthy volunteers were screened for Madhyam Koshta and Other Criteria of inclusion and assigned into 2 equal groups Trivrut Churna and Bhavita Trivrut Churna group.

#### **Inclusion criteria**

Healthy individuals with Madhyama Koshta who do not complain any type of physical illness. Whose routine clinical examination and laboratory investigations reveal no abnormality. Individuals between the age group of 17 and 40 of either sex.

#### **Exclusion criteria**

Individuals with physical or mental ailments or with altered routine lab investigation.

Persons who are contraindicated for Virechana.

#### **Drug Dose and duration of therapy**

##### **Drug**

Group 1. Trivrut churna – 24 grams

Group 2. Bhavita trivrut Churna- 12 grams

##### **Duration**

1. Dipana Pachana- Until Nirama Lakshana.
2. Snehanapana- 3-7 days or till Samyak Snigdha Lakshanas.
3. Sarvanga Abhyanga and Bashpa Svedana- 3 days.
4. Virechana Karma- 1 day.
5. Samsarjana Krama- 3 to 7 days based on Shuddhi attained.

**Total duration of treatment:** 13 to 21 days.

##### **Design of group and management**

Healthy individuals were divided randomly into two groups

Group 1. Trivrut churna – 24 grams

Group 2. Bhavita trivrut Churna- 12 grams

Study is divided into 3 main parts i.e.

1. Purvakarma
2. Pradhanakarma
3. Paschatkarma

Purvakarma: Deepana-Pachana

Panchakola Phanta 30ml thrice a day before food was given till the attainment of Nirama Lakshana in both groups.

Snehanapana: Plain Ghrita was administered in both groups with Arohana karma depending on the Agni until the Samyak snigdha lakshanas were achieved.

Vishrama Kala: during Vishram kala for both groups Sarvanga Abhyanga with Murchita Taila<sup>8</sup> for 35 minutes followed by Mrudu Bashpa Sweda (fomentation) was given and advised to take Ushna jala Snana (warm water bath) consequently for 3 days.

Pradhana Karma

On the day of Virechana, Sarvanga Abhyanga (massage) with Murchita Taila for 35 minutes followed by Mrudu Bashpa Sweda was given.

In group 1 Trivrut Churna 24 grams and in group 2 Bhavita Trivrut Churna was administered as Virechaka yoga in the dose of 24 grams and 12 grams respectively between 9:00am to 9:30am with Madhu as Anupana.

Paschat Karma

Patients were kept on Samsarjana krama according to Shuddhi attained.

Abhyantara Snehanapana

Snehanapana was done in Arohana karma with the initial dose fixed at 30ml which was later increased day by day looking in to time taken to digest Sneha on day to day basis till Samyak Snigdha Lakshana was observed. Plain Gritha was administered early in the morning with Ushna Jala Anupana. Finally, the appearances of Samyak Snigdha Lakshanas were considered as the final criteria to stop Snehanapana. Diet during Snehanapana was considered according to the rule of Snehanapana. i.e. Drava, Ushna, Anabhishtandhi, Pramanathah (in proper quantity), Nathisnigdha, Asankirna Ahara was given.

#### Virechana Karma

After Samyak Snigdha Lakshana appeared, 3 days of gap was given as Vishram Kala, were in Abhyanga with Murchita Taila followed by Bashpasweda were performed. On the day of Virechana after evacuation of natural urges & bath, in empty stomach again Bahya Abyanga followed by Bashpa Sweda was given. After passing of Kapha Kala i.e. at about 9:00 am to 9:30am. Patients were administered with Trivrut Churna 24 grams and Bhavita trivrut churna 12 grams according to group assigned, with Madhu as Anupana. All the vitals like Blood pressure, Pulse and Respiration rate are noted. The vitals are also recorded before, during and after the complete process of Virechana Karma. Careful observation was made for assessing the Virechana Vegas and the patients were advised to observe the colour of stool, smell, type of excreted materials, its constitutions, Snigdhatva, any burning sensation, pain, till the Kaphanta Virechana conditions arises. At last, the patients were assessed for type of Shuddhi, Hina, Madhyama, and Uttama.

#### Samsarjana Krama

Depending on the Shuddhi Lakshanas Samsarjana Krama was started with Peya, Vilepi, Akrita & Krita Yusha, Akrita & Krita Mamsa Rasa for 3, 2 & 1 Anna Kala respectively in Pravara, Madhyama and Avara Shuddhis for both groups.

#### Criteria to assess the Signs & Symptoms

To assess the effect in each group, the chief criteria were the Drug palatability, Time taken for the onset of Virechana, Number of Virechana Vega, Duration of Virechana, Anthiki Shuddhi, Laingiki Shuddhi, Vegiki Shuddhi, Virechana Vyapad (if any), Discomfort to the patient, Respiration, Pulse rate and Blood pressure before, during and after Virechana. These were assessed by giving specific scores which were helpful in Statistical analysis.

#### Statistical analysis

Statistical package for social science (SPSS) version 20 was used for the data analysis. To analyze the Vitals Friedman's test and Post Hoc analysis with Wilcoxon signed rank test with Bonferroni correction applied. To assess the statistical significance of various Samyak Virikta Lakshana Paired 't' test and Cochran's Q test was applied.

### OBSERVATIONS

#### Observations on healthy individuals

30 healthy individuals were randomly divided into two groups each comprising of 15 healthy individuals. In one group Virechana with Trivrut Churna was given and in another group Virechana with Bhavita Trivrut Churna was given. All 30 individuals completed the study. So, among 30 individuals 23 healthy individuals in this study belonged to 21 to 30 years i.e. around 76%. There were 4 individuals belonged to age group less than 20 years i.e. 13%, 2 healthy individual of age group 31 to 40 years i.e. 6.7% and 1 healthy individual in age group of 41 to 50 years i.e. 3.3%. The 90% of healthy individuals were Hindus, 2 individuals i.e. 6.7% were Muslim and 1 individual i.e. 3.3% was Christian in this study. Education wise distribution shows that 3.3% of healthy individual have passed their pre-university level and rest of 96.7% were Graduate. In the study 93.3% of healthy individuals were students. 2 individuals belonged to other

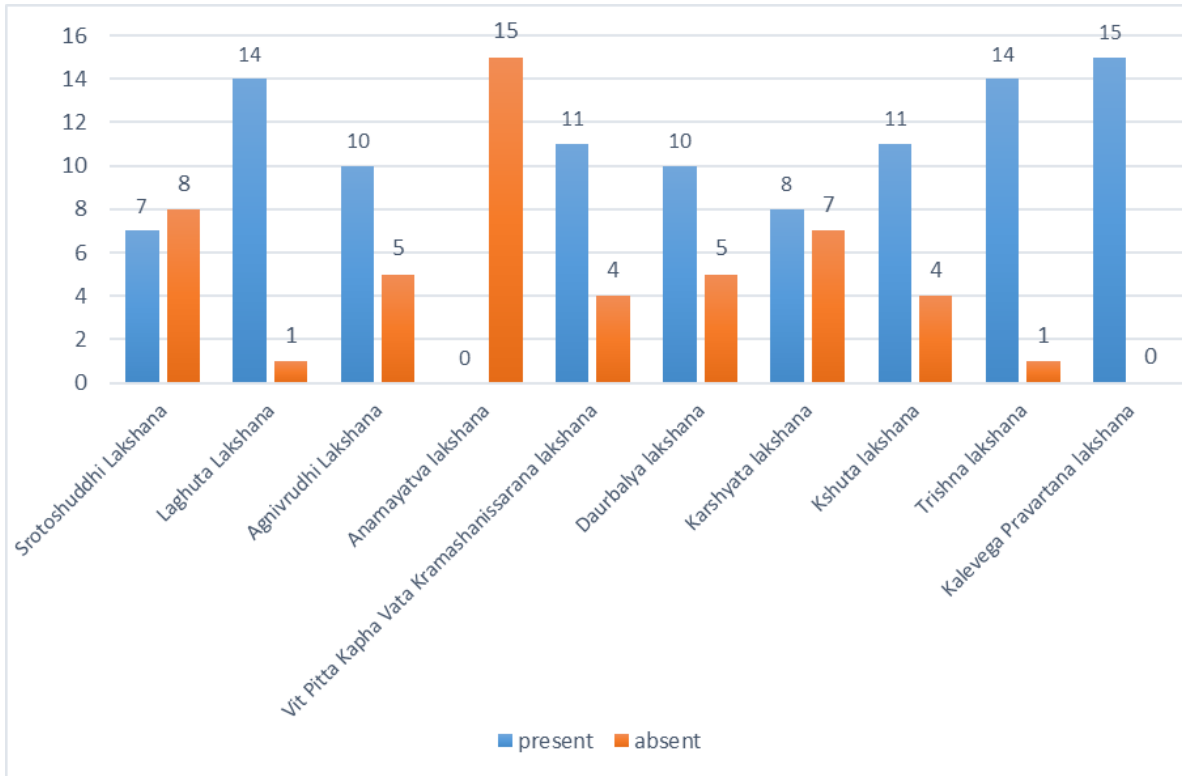
category among which 1 was staff nurse and 1 was therapist by occupation, 93.3% of individuals i.e. 28 healthy individuals were Unmarried and 2 were married in this study. In socioeconomic status preponderance of 93.3% of individuals i.e. 28 in upper-middle class was seen in this study. Rest of 2 individuals belonged to middle class.

#### Observation on treatment

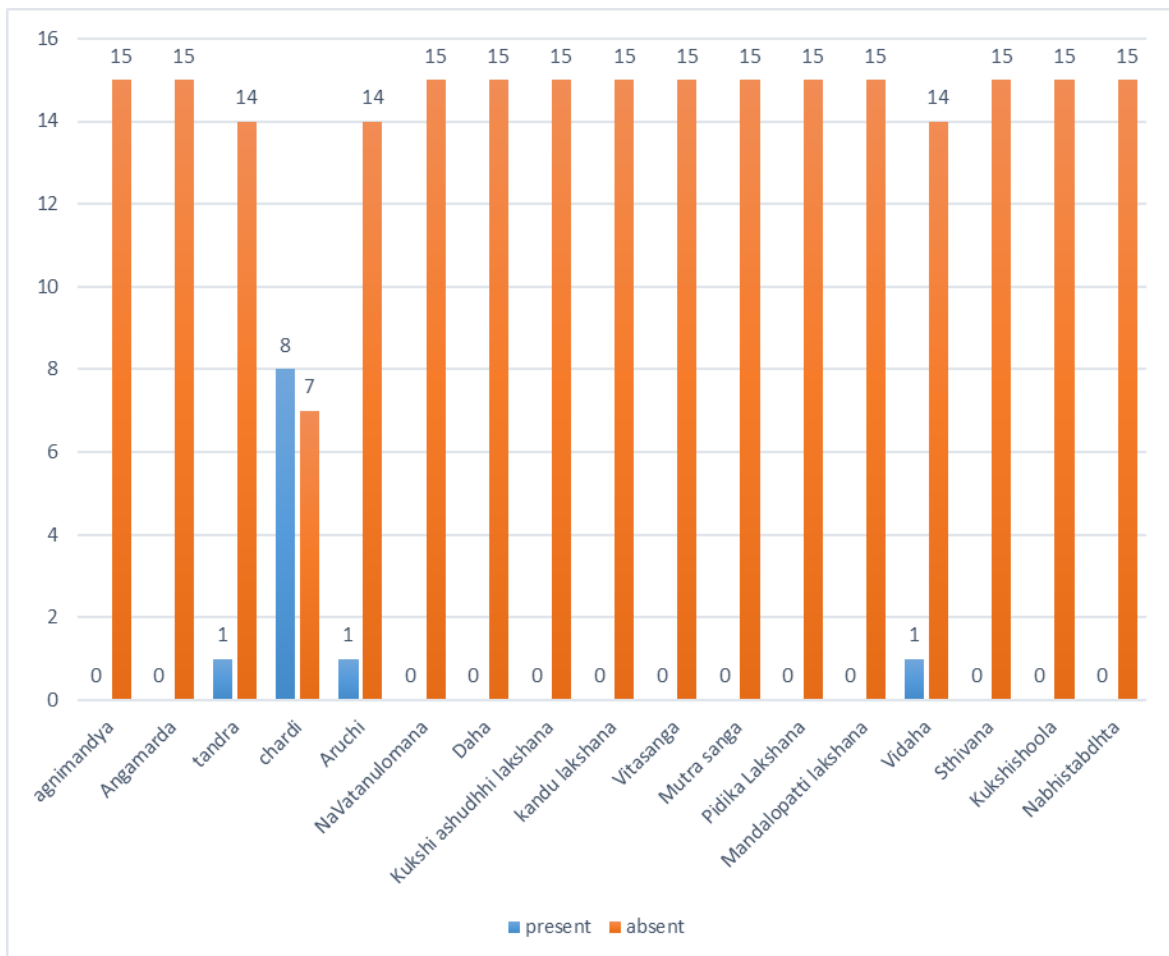
Among 30 individuals 18 got Nirama Lakshana in 3-4 days and 12 got Nirama Lakshana on or after 4 days. Assessment of Abhyantara Snehapana can be divided into two viz. Koshta related Lakshana, and Tvacha related Lakshana. 15 Volunteers of Trivrut churna group got 96% of Vatanulomana on 4th day whereas in Bhavita trivrut Churna group 15 individuals got 100% Vatanulomana on 4th day. Other symptoms related to Koshta such as Deepta Agni, Varcha Snigdhatva, Asamhata varcha appeared on 3 to 4 days in both groups. In Bhavita trivrut Churna Group 71% Snehodvega was present on 4th day and in Trivrut Churna Group also it was more on 4th day itself.

**Trivrut Churna Group**-In Trivrut Churna group, the Virechaka Yoga was not Palatable for all 15 individuals i.e. 100%. Time taken in onset of 1st Vega for 2 individuals was within 30 mins, 9 individuals got 1st Vega in less than 1 hour and 4 individuals got 1st Vega between 1-2 hours. The maximum duration of Virechana Karma in Trivrut Churna group was 8 hours 15 mins. Among the Samyak Lakshana Kasrshyata was absent on 7 individuals and Daurbalyata was absent in 5 individuals, Laghuta was absent in 1 individual and Kshuta lakshana was present in 11 individuals. In this group among 15 individuals maximum of 4 individuals got 21 Vegas, 7 got Vegas between 10 to 20 and 8 individuals got Vega between 20-30 numbers. In Anthiki Shuddhi criteria 13 individuals i.e. 86.6% of individuals attained Kaphanta Shuddhi and 2 individuals i.e. 13.3% got Pittant. In criteria of Vegiki Shuddhi study shows that 13 individuals i.e. 86.6% attained Kaphanta Shuddhi and 2 individuals i.e. 13.3% got Pittant after Virechana. Among Ayoga Lakshana in Trivrut Churna Group 8 individuals got Chardi. 1 individual was having Lakshana of Aruchi and 1 was having Tandra.

**Bhavita Trivrut Churna group**- Among 15 individuals 14 individuals i.e. 93.3% found Bhavita Trivrut Churna palatable. In this group 1 individual got 1st Vega within 30 mins, 9 individuals got 1st Vega in less than 1 hour and 5 individuals got 1st Vega between 1-2 hours. Study showed that the maximum duration of Virechana Karma in Bhavita Trivrut Churna group was 9 hours 25 mins. Whereas 12 individuals completed Virechana karma within 4-7 hours and 3 individuals complete it within 7-10 hours. Maximum of 6 individuals in this group got 12 Vegas. Among 15 individuals 14 got Vegas in between 10 to 20 and 1 individual got Vega between 20-30 numbers. Under the criteria of anthiki Shuddhi study shows 12 individuals i.e. 80% of individuals attained Kaphanta Shuddhi and 3 individuals i.e. 30% got Pittant. In the group of 15, 2 individuals got Pravara Shuddhi i.e. 13.3% and 13 individuals got Madhyama Shuddhi i.e. 86%. Among the Samyak Lakshana: Kasrshyata was absent on 3 individuals and Daurbalyata was absent in 1 individual, Laghuta was absent in 1 individual. Among 15 healthy individuals in criteria of Ayoga only 1 individual got Ayoga i.e. Chardi. In other Ayoga Lakshana like Mandalopatti Sthivana, Vidaha and Tandra was present in very less extent.



Graph 1: Samyak Yoga Lakshana in Group-1 (Trivrut Churna 24 grams)



Graph 2: Ayoga Lakshana in Group-1 (Trivrut Churna 24 grams)

**Table 1: Cochran Q test for Samyak Virikta Lakshana of Trivrut Churna 24 Grams**

"Trivrut churna 24 gms"	N	15
	Cochran's Q	87.608 <sup>a</sup>
	Df	12
	Asymp. Sig.	.000

**Table 2: Cochran Q Test for Ayoga Lakshana in Trivrut Churna Group 24 Grams**

"Trivrut churna 24 gms"	N	15
	Cochran's Q	95.812 <sup>a</sup>
	df	16
	Asymp. Sig.	.000

**Table 3: Cochran Q test Samyaka Virikta Lakshana of Bhavita Trivrut Churna group 12 Grams**

Bhavita trivrut churna 12 gms	N	15
	Cochran's Q	105.000 <sup>b</sup>
	Df	12
	Asymp. Sig.	.000

**Table 4: Cochran Q test for Ayoga Lakshana in Bhavita Trivrut Churna 12 Grams**

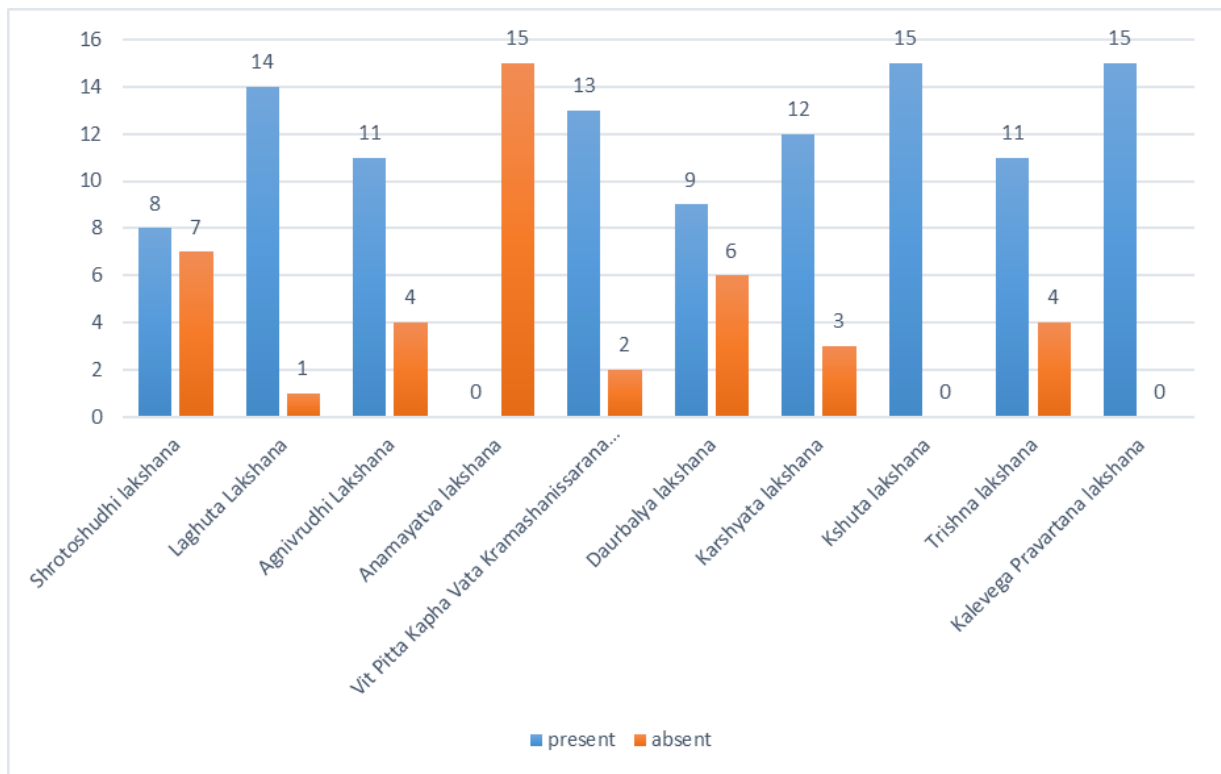
Bhavita trivrut churna 12 gms	N	15
	Cochran's Q	20.444 <sup>a</sup>
	Df	16
	Asymp. Sig.	.201

Table 1 showing Cochran Q test values for samyak virikta lakshana. To access the Samyak virikta lakshana achieved in Trivrut Churna group Cochran's Q test was applied. The Lakshana of samyaka Virikta in this group found significant with P value <0.001.

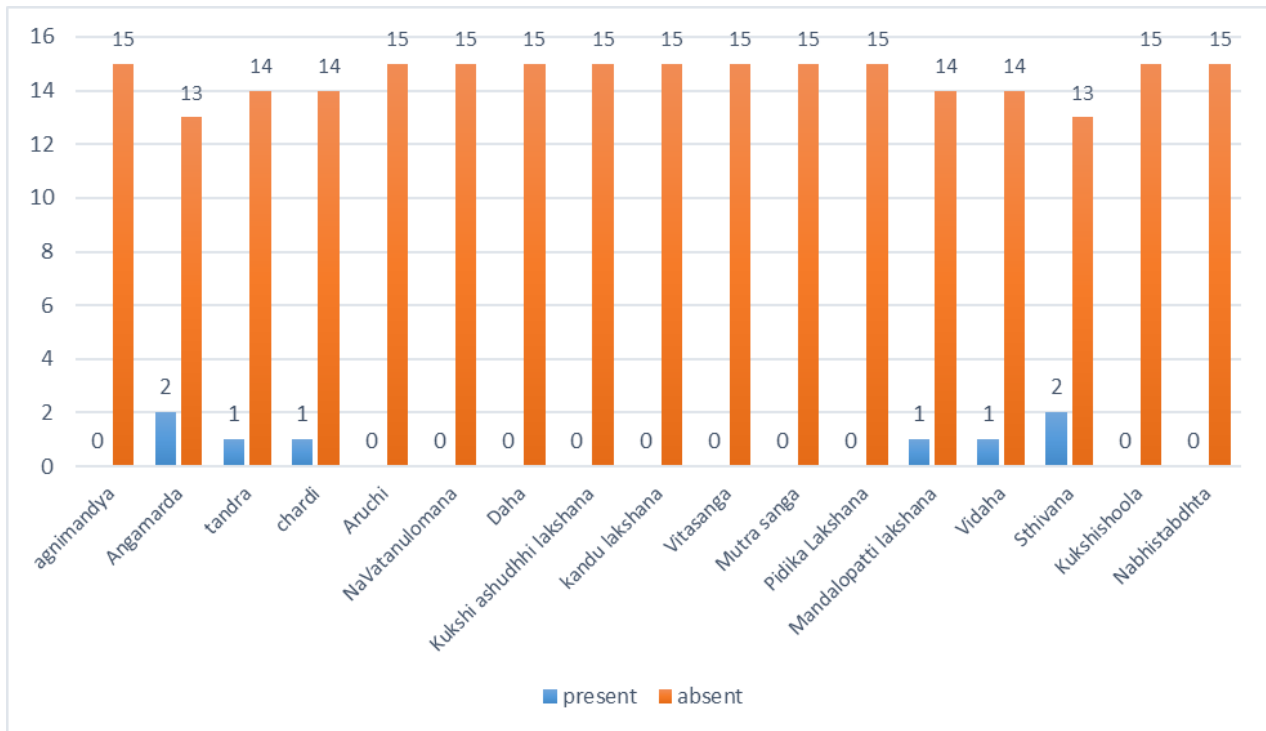
To know the Ayoga lakshana present in Trivrut churna group Cochran Q test was applied. Here the ayoga lakshana are found to be significant because of Lakshana like Chardi. In Ayoga Lakshana this group is having highly significant result i.e. p value <0.05. (Table 2)

To know whether the individuals of Bhavita Trivrut Churna group achieved Samyak Virikta Lakshana, Cochran Q test was applied. In result it has been found that the Samyak Virikta Lakshana was attained by this group with significance of p value <0.005 that is highly significant. (Table 3)

To know about the Ayoga lakshana in bhavita trivrut churna Cochran Q test was applied and in result it was found that the Ayoga lakshana in bhavita trivrut churna is non-significant because the P value obtained is >0.05. (Table 4)



**Graph 3: Samyak Yoga Lakshana in Group-2 (Bhavita Trivrut Churna 12 grams)**



Graph 4: Ayoga Lakshana in Group-2 (Bhavita Trivrut Churna 12 grams)

## RESULT AND DISCUSSION

Virechana Karma is one among Panchakarma having different variants (Anulomana, Bhedana, Samsrana and Rechana), yielding higher benefits in almost all types of disorders, proves beneficial in Tridosha and even can appreciate Rasayana effect also. When compared to Vamana, Virechana needs minimal supervision. Each and every step included in whole procedure of Virechana has its own importance in maintaining health and curing ill condition.

Bhavana of Virechana Yoga-Bhavana<sup>8</sup> is a type of Samskara, by which Veerya of the drug increases and the dose can be decrease. Bhavana can be done by the Kashaya, Swarasa or any Dravadravya. The Dravadravya should be prepared out of the Dravya which is equal quantity to Churnadravya. Wet trituration facilitates particle size reduction leading to modification of properties (Gunantatradhana) of the end product. The interaction of liquids of same drug or different drug in Bhavana process may give leads for development of newer pharmaco-kinetic-dynamic potent molecules. So in this study Bhavana was done with Kashaya, which reduced the dose of drug and increased the Potency.

The assessment of each healthy individual is done on various parameters like signs and symptoms of Samyak Virikta Lakshana, Vegiki Shudhhi, Antiki Shudhhi, Vitals and other parameter like Palatability of Medicine.

The results of each therapy were statistically analysed and finally inferences were drawn on the basis of the data & put forward hereby.

**Age:** The data showed that 23 healthy individuals in this study belonged to 21 to 30 years i.e. around 76%. There were 4 individuals belonged to age group less than 20 years i.e. 13%, 2 healthy individual of age group 31 to 40 years i.e. 6.7% and 1 healthy Volunteer in age group of 41 to 50 years i.e. 3.3%. This

shows that the age group of 21 to 30 years i.e. 76% of healthy individuals were having more awareness towards the Shodhana Karma and its Benefits so they participated voluntarily in this study.

**Gender:** 60% male and 40% female were participated in this study.

**Religion:** 27 individuals i.e. 90% of healthy individuals were Hindus, 2 individuals i.e. 6.7% were Muslim and 1 individual i.e. 3.3% was Christian. The research set up i.e. SDM college of Ayurveda and hospital is situated in area with predominant Hindu community. So this observation doesn't have any significance in the study.

**Habitat:** All healthy individuals i.e. 30 were urban residents.

**Occupation:** 93.3% of healthy individuals were students. 2 individuals belonged to other category among which 1 was staff nurse and 1 was therapist by occupation.

**Socioeconomic Status:** In this study 93.3% of individuals i.e. 28 were belonged to upper-middle class. Rest of 2 individuals belonged to middle class.

**Education:** In this study 3.3% of healthy individual have passed there pre-university level and rest of 96.7% were Graduate.

**Marital Status:** 93.3% of individuals i.e. 28 healthy individuals were Unmarried and 2 were married in this study.

**Deepana and Pachana:** Among 30 individuals 18 got Niramam Lakshana in 3-4 days and 12 got Nirama Lakshana on or after 4 days. This may be due to drug Panchakola Phanta of 30 ml thrice a day is sufficient to produce Nirama Lakshanas in Madhyama Koshta person.

**Samyak Snigdha Lakshana:** It can be divided into two viz. Koshta related Lakshana, and Tvacha related Lakshana. It can be divided into two viz. Koshta related Lakshana, and Tvacha related Lakshana. 15 Volunteers of Trivrut churna group got 96% of Vatanulomana on 4th day whereas in Bhavita trivrut Churna group 15 individuals got 100% Vatanulomana on 4th day. Other symptoms related to Koshta such as Deepta Agni, Varcha Snigdha, Asamhata varcha appeared on 3 to 4 days in both groups. In Bhavita trivrut Churna Group 71% Snehodvega was present on 4th day and in Trivrut Churna Group also it was more on 4th day itself.

**Palatability of Virechana Yoga:** In Bhavita Trivrut Churna group among 15 individuals 14 individuals found it palatable whereas in Trivrut Churna group it was not palatable for all 15 individuals. All the individual of Trivrut churna group i.e. 100% of participants of this group found difficulty in taking the Virechaka yoga due to taste and higher dosage form of 24 grams even though the medicine was administered with honey. But in Bhavita Trivrut Churna group 93.3% of individual found Bhavita Trivrut Churna Palatable because of the lesser dose of the Yoga i.e. 12 grams administered with honey. Bhavita Trivrut Churna was more palatable than Trivrut churna.

#### **Onset of 1<sup>st</sup> Virechana Vega (Latency Period)**

**Trivrut Churna Group-** 2 individuals got 1st Vega within 30 mins, 9 individuals got 1<sup>st</sup> Vega in less than 1 hour and 4 individuals got 1<sup>st</sup> Vega between 1-2hours.

**Bhavita Trivrut Churna group-** 1 individual got 1st Vega within 30 mins, 9 individuals got 1<sup>st</sup> Vega in less than 1 hour and 5 individuals got 1<sup>st</sup> Vega between 1-2hours.

When the time taken for onset of 1<sup>st</sup> Vega was compared, the time was almost same for both the groups. Hence it can be said that in the time of Onset of 1<sup>st</sup> Vega, there is not much difference between both the groups. This shows even Bhavita Trivrut Churna (12gms) also able to onset the first Vega in same duration of time like that of Plain Trivrut Churna (24gms).

#### **Total duration of Virechana Karma**

**Trivrut churna group:** the maximum duration of Virechana Karma in Trivrut Churna group was 8 hours 15 mins. .5 individuals completed Virechana karma within 4-7 hours and 10 individuals complete it within 7-10 hours.

**Bhavita Trivrut Churna:** the maximum duration of Virechana Karma in Bhavita Trivrut Churna group was 9 hours 25 mins. 12 individuals completed Virechana karma within 4-7 hours and 3 individuals complete it within 7-10 hours.

#### **Total number of Virechana Vega's**

**Trivrut Churna group:** Maximum of 4 individuals got 21 Vegas. Among 15 individuals 7 got Vegas between 10 to 20 and 8 individuals got Vega between 20-30 numbers

**Bhavita trivrut churna:** Maximum of 6 individuals got 12 Vegas. Among 15 individuals 14 got Vegas between 10 to 20 and 1 individual got Vega between 20-30 numbers.

#### **Vegiki Shuddhi**

**Trivrut Churna group-** 8 individuals got Pravara Shudhhi i.e. 53.3% and 7 individuals got Madhyama Shudhhi i.e. 46.7%.

**Bhavita Trivrut churna group** - 2 individuals got Pravara Shudhhi i.e. 13.3% and 13 individuals got Madhyama Shudhhi i.e. 86%. In Trivrut churna group the number of Pravara shudhhi was more as compare to Bhavita Trivrut Churna group, in bhavita trivrut churna more number of Healthy Volunteers got Madhyama Shudhhi.<sup>9</sup>

**Antaki Shuddhi: Trivrut Churna group-** 13 individuals i.e. 86.6% of individuals attained Kaphanta Shudhhi and 2 individuals i.e. 13.3 % got pittant.

**Bhavita Trivrut churna group-** 12 individuals i.e. 80% of individuals attained Kaphanta Shudhhi and 3 individuals i.e. 30% got pittant

#### **Laingiki Shuddhi: Samyaka Yoga Lakshana<sup>10</sup>**

**Trivrut Churna group-** Among the Samyak Lakshana: Kasrshyata was absent on 7 individuals and Daurbalyata was absent in 5 individuals, Laghuta was absent in 1 individual.

**Bhavita trivrut churna-** Among the Samyak Lakshana: Kasrshyata was absent on 3 individuals and Daurbalyata was absent in 1 individuals, Laghuta was absent in 1 individual. Both virechaka yoga were having potency of producing samyak virikta lakshana as the study showed significant values for both the group for samyak virikta lakshana.

#### **Karshyata**

**Trivrut Churna group-** mean value 2.3 kg of weight loss has been observed in Trivrut churna Group.

**Bhavita Trivrut Churna group-** mean value 2.13 kg of weight loss has been observed in Bhavita Trivrut churna Group. Signs and Symptom of Karshyata was present in both group, both the Virechana Yoga are having ability to produce Karshyata with help of the Potency.

**Samsarjana Krama:** Peyadi samsarjana Krama was advised for 3 Annakal for 22 healthy individuals with Pravara Shudhhi and 2 Annakala peyadi samsarjana Karma was advised for 8 individuals who attained Madhyama Shuddhi.

#### **Ayoga Lakshana**

**Trivrut churna group** – in this group 8 individual got Ayoga Lakshana i.e. Chardi. Among other Ayoga Lakshana such as Tandra Aruchi and Vidaha was present in few individuals that got subsided without any treatment within few hours.<sup>11-13</sup>

**Bhavita trivrut churna-** Among 15 healthy individuals only in 1 individual Ayoga i.e. Chardi was present. In other Ayoga Lakshana like Mandalopatti Sthivana, Vidaha and Tandra was present but after some time it was subsided without any interventions.

By comparing both the group the prevalence of Ayoga i.e. Chardi was significantly present in Trivrut Churna group where as in Bhavita Trivrut Churna only one instance of Chardi was present. Bhavita Trivrut Churna does not produces chardi as compare to Trivrut Churna during the Virechana Procedure.

**Atiyoga Lakshana:** In both group of this study no one complained of adverse effects or any type of complications during the Virechana Karma, this suggests that neither the Bhavita Churna nor Trivrut churna leads to Atiyoga.<sup>14-16</sup> There were no Virechana Vyapata in both the groups.<sup>17-19</sup>

**Vitals:** Pulse rate and blood pressure remained same before administration of medicine and onset of Virechana. After onset of Virechana there was Decrease in the Pulse rate and blood pressure in both groups. There afterwards these parameters remained same until the end Virechana Karma.

All the vital data remained under the normal range throughout the procedure in both groups, so Bhavita Trivrut churna and trivrut churna are safe as Virechaka yoga in terms of vitals.

## CONCLUSION

The Palatability of Bhavita Trivrut Churna is better than Trivrut churna. The latency period or time taken for the onset of 1<sup>st</sup> Virechana Vega is almost same for both Virechaka Yoga. Bhavita Trivrut Churna produced less Vegas as compared to Trivrut Churna but the Samyak Shuddhi Lakshana were achieved by both the Groups. Total Duration of Virechana Karma is almost the same in both the group. While in Antiki Shuddhi criteria Bhavita Trivrut churna and Trivrut Churna both has produced Kaphanta Shuddhi.in Laingiki Shuddhi all healthy individuals in Bhavita Trivrut Churna and Trivrut churna attained Samyak Shuddhi Lakshanas during Virechana Karma. There were more instances of Chardi in Trivrut churna group as compared to Bhavita Trivrut Churna whereas Atiyoga Lakshanas were not observed in both the groups. Bhavita Trivrut Churna is better than Trivrut Churna because of better palatability, lesser dosage and less Ayoga Lakshanas during the Virechana Karma in Swastha. Hence it can be concluded that Bhavita Trivrut Churna is effective Virechaka Yoga for Healthy individuals in order to achieve Samyak Virikta Lakshana.

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## Cite this article as:

Sahu Lalravi *et al.* Clinical study on effect of Bhavita trivrut churna as Virechaka yoga in healthy individuals. Int. J. Res. Ayurveda Pharm. 2017;8(5):191-198 <http://dx.doi.org/10.7897/2277-4343.085273>

Source of support: Nil, Conflict of interest: None Declared

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