

FORMULATION OF CHURNA BASTI: A REVIEW ARTICLE

Priyanka Shegekar^{1*}, Bende Yogita² and Chandaliya Sachin³¹P. G. Scholar Department of Panchakarma, Shri Ayurveda Mahavidyalaya, Nagpur.²Associate Professor, Department of Panchakarma, Shri Ayurveda Mahavidyalaya, Nagpur.³HOD & Professor, Department of Panchakarma, Shri Ayurveda Mahavidyalaya, Nagpur.Article Received on
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Corresponding Author*Dr. Priyanka Shegekar**P. G. Scholar Department of
Panchakarma, Shri Ayurveda
Mahavidyalaya, Nagpur.**ABSTRACT**

Basti chikitsa regarded as the prime treatment modality among the *Panchakarma*. It is considered as the chief treatment for *Vata dosha*. *Basti* is not merely enema; rather it is a highly complex, sophisticated and systemic therapy having wider range of therapeutic actions and indication. *Churna basti* is type of *niruha basti* explained by *Acharya Chakarapni* in his commentary on *Siddhithana*. *Saindhava* (rock salt), *Taila* (unctuous material), *Rasnadi Chruna*, *Koshna Jala* and *Amla Drvya* are the main ingredients of *Churna Basti*. Mode of action of *basti* is also complex which makes it unique. This study reveals the formulation of *Churna Basti* in co-relation with the *niruha basti*

preparation explained in classical text and an attempt is made to understand the probable mode of action of *Churna Basti*.

KEYWORDS: *Churna Basti*, *Niruha Basti*, Mechanism of action.

INTRODUCTION

Basti is a therapeutic procedure in which the drugs administered into the anal canal by using *basti*' i. e. urinary bladder of animal, stay in large intestine for a certain period to nourish the body as well as to draw the waste products from all over the body into the colon and to eliminate them out of the body by producing movements in the colon. It is the most important therapeutic procedure in *Panchakarma* and treated as *Chikitsaardha* i. e. half of all treatment modalities.^[1]

Types of *basti*: There has been various types of *Basti* explained by almost all *Acharyas* depending on various factors. On the basis of *drvaya* used for administration, *basti* can be

classified mainly into two types *Niruha* and *Anuvasana Basti*.^[2] In *Niruha Basti Kwatha* (decoction) is main content while in *Anuvasana, Sneha* (unctuous material) is the main content. *Niruha Basti* also contains *Makshika, Saindhava, Sneha, Kalka* and *Avapa* along with *kwatha*. *Acharays* has also explained some other *basti* which does not include all these contents like *Churna Basti*,^[3] *Ardhamatrik Basti, Vaiatarna Basti*.^[4]

Churna basti: *Acharya Charaka* while explaining the uses of different *basti* according to *Samsakra Vishesha*, *Chakrapani* added *Churna Basti* in his commentary. *Churna Basti* is a type of *Niruha Basti* containing *Sainadhava, Taila, Rasnadi Churna, Koshna Jala* and *Amla Drvya* as main ingredients.^[5] *Churna basti* acts on *shula* which arises due to vitiated *vata dosha*.^[6] *Vata* is main among *tridosha* and originator of all the diseases. *Basti* enters the *Pakwashaya* which is the main seat of *vata dosha*.⁷ By subsiding the *vata*, all the diseases located in the other parts of the body also become pacified just like cutting the roots of a plant, the stem, branches, sprouts, fruits, leaves etc also destroys.^[8] The *veerya* of *basti* administered enters into the *Pakwashaya* reaches the whole body through the channels (*Strotasa*) as the active principles in the water when poured at the root of the tree reaches the whole plant.^[9]

AIMS AND OBJECTIVES

1. To prepare *Churna Basti* in accordance with the prescribed classical method.
2. To study the mechanism of action of *Churna Basti*

MATERIALS AND METHODS

Table no. 1: Ingredients of *churna basti*.^[10]

Ingredients	In ml/g
<i>Saindhalavana</i>	6 g
<i>Pipplyadi tail</i>	75 ml
<i>Rasnadi churna (Rasna, Vacha, Bilva, Shatpushpa, Ela, Putika, Madanphala, Pippli, Devdaruand Kushta)</i>	50 g (5g each)
<i>Koshhna jala</i>	250ml
<i>Dhanyamla</i>	75 ml
Total	456 ml

Equipment

1. Heating source
2. Mortar and Pastel
3. Filter

4. Stainless steel vessels
5. Measuring cylinder

Properties of *churna basti dravya*

Table no. 2: Properties of *Saindhava* and *Koshnajala*.

Sr. no.	Dravya	Properties
1	<i>Saindhava</i> ^[11]	<i>Snigdha, Ushna, Teekshna, Deepaniya</i>
2	<i>Koshnajala</i> ^[12]	<i>Kaphaghana, Medoghna, Vataghna, Ama Dhoshaghna, Agnidipaka, Bastishodhaka, Shwasa-Kasa-Jwara Nashaka and Pathya</i>

Table no. 3: Properties of *pipplaydi taila dravya*.^[13]

Sr. no.	Name of drug	Latin name	Family	Rasa	Vipaka	Virya	Guna
1	<i>Pippali</i>	<i>Piper longum</i>	<i>Piperaceae</i>	<i>katu</i>	<i>Madhur</i>	<i>Ushna</i>	<i>Laghu, tikshna</i>
2	<i>Madanphala</i>	<i>Randia spinosa</i>	<i>Rubiaceae</i>	<i>Kashya, madhura, tikta, katu</i>	<i>Katu</i>	<i>Ushna</i>	<i>Laghu, Ruksha</i>
3	<i>Bilva</i>	<i>Aegle marmelos</i>	<i>Rutuceae</i>	<i>Kashaya</i>	<i>Katu</i>	<i>Ushna</i>	<i>Laghu, ruksha</i>
4	<i>Shtavha</i>	<i>Antheum sowa</i>	<i>Umbelifereae</i>	<i>Katu</i>	<i>Katu</i>	<i>Ushna</i>	<i>Laghu, tikshna</i>
5	<i>Madhuka</i>	<i>Glycyrrhiza glbra</i>	<i>papilionate</i>	<i>Amdhur</i>	<i>Madhur</i>	<i>Sheet</i>	<i>Guru, snigdh</i>
6	<i>Vacha</i>	<i>Acorus calamus</i>	<i>Araceae</i>	<i>Tikta katu</i>	<i>Katu</i>	<i>Ushna</i>	<i>Laghu, tikshna, ruksha</i>
7	<i>Kushta</i>	<i>Sausera luppa</i>	<i>Asteraceae</i>	<i>Tikta, katu, madhur</i>	<i>Katu</i>	<i>Ushna</i>	<i>Laghu, ruksha, tikshna</i>
8	<i>Shati</i>	<i>Hedychium spicatum</i>	<i>ziziberaceae</i>	<i>Katu, tikta, kashay</i>	<i>katu</i>	<i>ushna</i>	<i>Laghu, tikshna</i>
9	<i>Pushkar</i>	<i>Inula racemosa</i>	<i>copositae</i>	<i>Tikta, katu</i>	<i>Katu</i>	<i>Ushna</i>	<i>Laghu, snigdha</i>
10	<i>Chitraka</i>	<i>Plumbago zylanica</i>	<i>Plumbagina ceae</i>	<i>Katu</i>	<i>Katu</i>	<i>Ushna</i>	<i>Laghu, rukasha, tikshna</i>
11	<i>Devadaru</i>	<i>Cedrous deodara</i>	<i>Pinaceae</i>	<i>Tikta</i>	<i>Katu</i>	<i>Ushna</i>	<i>Laghu, snigdha</i>

Table no. 4: Properties of *rasnadi churna dravya*.^[14]

Sr. no.	Name of drug	Latin name	Family	Rasa	Vipaka	Virya	Gunas	Chemical composition
1	<i>Rasna</i>	Pluchea lancedata	Compositae	Tikta	Katu	ushna	Guru, ushna,	Kersitin, isoremitin
2	<i>vacha</i>	Acorus calamus	Araceae	Tikta katu	Katu	Ushna	Laghu, tikshna, ruksha	Aciril aldehyde, A aseron, Baseron, aceron, userol, caffin, flavin, sesquiterpenoids, lighans steroids.
3	<i>Bilva</i>	Aegle marmelos	Rutuceae	Kashaya	Katu	Ushna	Laghu, ruksha	Mucilase, pectin, sugar, tannin, valitle oils, marmelosin, aegelin, aegelinin, DPPH, TE, flavenoid, Ascorbic Acid
4	<i>Shatpushpa</i>	Antheum sowa	Umbelifereae	Katu	Katu	Ushna	Laghu, tikshna	Volatile oil, apiol, beta butyrolactone, isobutyl acetone
5	<i>Ela</i>	Amomum Subulatum	Zinziberaeae	Katu	Katu	Ushna	Laghu, ruksha, ushna	Cinol, berta pinene, alpha terpinol, spathulenol, 4 terpinol, alpha penine
6	<i>putika</i>	pogamia pinnata	Leguminosae	Tikta, katu, kashaya	Katu	Ushana	Laghu, tikshna	Sitosteryl, galactoside, stigma, sterol, sucrose
7	<i>Pippali</i>	Piper longum	Piperaceae	Katu	Madhur	Ushna	Laghu, tikshna	Payparin, Paypalatrin

								Sisemin, pipla Sterol, pipyarlegumin,
8	<i>Madanphala</i>	Randia spinosa	Rubiaceae	<i>Kashya, madhura, tikta,katu</i>	<i>Katu</i>	<i>Ushna</i>	<i>Laghu, ruksh</i>	Tannin, mucilage, randil oil
9	<i>Kushta</i>	Sausera luppa	Asteraceae	<i>Tikta, katu, madhur</i>	<i>Katu</i>	<i>Ushna</i>	<i>Laghu, ruksha, tikshna</i>	Sassurine, reginoide tanin
10	<i>Devdaru</i>	Cedrous deodara	Pinaceae	<i>Tikta</i>	<i>Katu</i>	<i>Ushna</i>	<i>Laghu, snigdha</i>	Seketarpin, Kolesterion, tannins, beta sisterol

Table no. 5: Properties of *dhanyamla dravya*.^[15]

Ingredient	Rasa	Guna	Veerya	Vipaka	Doshakarma	Other properties
<i>tandula</i>	<i>Madura, kshaya</i>	<i>Guru</i>	<i>Sheeta</i>	<i>Madura</i>	<i>Vata shamak</i>	<i>Vrushya, mutrala, rochana, jvraghan, deepana</i>
<i>Pruthuka</i>	<i>Madhura</i>	<i>Guru</i>	<i>ushna</i>	<i>Madhura</i>	<i>Vata shamak</i>	<i>Vrushya, mutrala, rochana, jvraghan, deepana</i>
<i>Kultha</i>	<i>Kashay, madhura</i>	<i>Laghu, ruksha, teekshna, ushna</i>	<i>ushna</i>	<i>Katu</i>	<i>Kapha vata shamak</i>	<i>Shotha hara, swedavarodhaka, vidahi, anulomana, jvarghana, mutraka, lekhana, shukra nashak</i>
<i>Laja</i>	<i>Madhura</i>	<i>Laghu</i>	<i>sheeta</i>	<i>Ushna</i>	<i>Vata shamak</i>	<i>Vrushya, mutrala, rochana, deepana, jvaraghana</i>
<i>kangubeeja</i>	<i>Madhura, kshaya</i>	<i>Laghu</i>	<i>ushna</i>	<i>Madhura</i>	<i>vatakaphakshamak</i>	<i>Vatanulomak, vranaropan</i>
<i>kodrava</i>	<i>Madhura</i>	<i>Laghu</i>	<i>sheeta</i>	<i>Katu</i>	<i>kapha</i>	<i>Vedana sthapan</i>
<i>Nagra</i>	<i>Katu</i>	<i>Laghu</i>	<i>ushna</i>	<i>Madhura</i>	<i>vatakaphashamak</i>	<i>Shothahara, vedanasthapan</i>
<i>nimbuka</i>	<i>Amla</i>	<i>Laghu</i>	<i>anushna</i>	<i>Madhura</i>	<i>kaphvatashamak</i>	<i>Rochana, deepana, pachana</i>
<i>deepyaka</i>	<i>Katu, tikta</i>	<i>Laghu, ushna</i>	<i>ushna</i>	<i>katu</i>	<i>Kapha vata shamak</i>	<i>Vedanasthapan, shothnashaka</i>

Preparation of *churna basti* as per *basti sammilan vidhi*

Niruha basti has a unique way of preparation known as *Basti Sammilan Vidhi* in which there is serial order of mixing ingredients. According to *Acharya Charaka* and *Vagbhata Madhu* is taken first followed by *Saindhava*, *Sneha*, *Kalka*, *Kwatha* and *Avapa*, while according to *Achayraya Sushruta Saindhava* is taken first.^[16,17,18] During the preparation of *Churna Basti*, firstly *Saindhava* is taken in mortar and *Pipplyadi Taijala* is added as *Sneha* in it. This *Sneha* is added slowly and continuous churning is to be done until a uniform consistency is attained. After that *Rasnadi Churna* is added in the form of paste as *Kalka* to this mixture. Then *Koshnajala* is added slowly and part by part for proper mixing. Last of all, *Dhanyamla* is mixed. The mixture is to be filtered through fine sieve. Finally, it is made lukewarm by keeping over a vessel containing hot water.

Rationale behind the sequence of mixing *niruha basti dravya*^[19]

While the preparation of *Niruha Basti*, it is important to know the reason behind the sequence of mixing *basti dravya*. *Acharya Kashyapa* has explained the reason in *Kashyapa Samhita*

Khilasthana Bastivishehsniyaadhyaya. *Madhu* is to be taken first because it is *Managalakari* (auspicious). After that *Saindhava* is added as the *tikshna guna* of *saindhava* reduces the *bahalata, pichhilata and kashayata of madhu*. So, mixture is formed. To this mixture *Sneha* is added which makes the mixture homogeneous. After that *Kalka* is added and then *kwatha* is added part by part with constant churning, *Kalka* causes *samsarajaana* and *kwatha* leads to *samata* i. e. homogeneous mixture is formed. *Kashyapa* also explained that *mutra* added to *basti* cause *patuta* i. e. *gunavridhhi* and increase the *veerya* of *basti*. Thus, properly mixed *Basti* eradicates *Pitta, Vata* and *Kapha* from *Strotsa* (channels). And *basti* made in improper cannot fulfil its purpose.

Characteristics of well-prepared *niruha basti*^[20]

A properly prepared *basti dravya* will not easily flow off and stick to the palm, it will not form different layers of ingredients added to it and finally it will form a uniform homogeneous mixture.

Mechanism of action

The given *basti* enters the *pakwashaya* and its *veerya* reaches all over the body through *strotasa* in the same way as the water poured at the root of the plant reaches up to leaves. *Veerya* acts all over the body by the action of *Apana* and other *Vayu*. *Veerya* of *basti dravyas* draws the morbid *dosha* lodged in the entire body from foot to head, just as the sun situated in the sky sucks up the moisture from the earth.^[21]

Role of *basti dravyas* in mechanism of action

Properties of *saindhava*: *Sukshama guna* reaches up to the micro channels of the body. *Tikshna guna* breaks down morbid *mala* and *dosha sanghata*. *Snigdha guna* liquifies the *dosha*. By its irritant property eliminates the *basti*.

Properties of *Sneha-Pipplyadi taila*: *Sneha dravya* used in *niruha basti* reduces *vata dushti*, softens microchannels, destroys the compact *mala* and removes the obstruction of in the channels.^[22] *Sneha* increases the permeability of the cell membrane and become helpful in elimination of *dosha* and *mala*. Because of *guru* and *snigdha guna* it liquifies the *dosha* and breakdowns the compact *mala*. Apart from this function it also protects the mucus membrane from the irritating drugs in the *basti dravya*.^[23] Drugs of the *pippyadi taila* used in *churna basti* has *katu rasa, katu vipaka* and *ushna veerya*. These properties help in reducing vitiated *vata* and *kapha dosha*. *Laghu, ruksha* and *tikshna guna* helps in *amapachana* and

agnideepana. *Pipplyadi taila* also indicated in condition of *Shula*, *Arsha*, *Mudhavta*, *Mutrakrichha*, *Pravahika*, *Gudashofa* and *Gudanissarana*.^[24]

Properties of Kalka- Rasnadi Churna

Kalka is one of the main constituents which give thickness to *basti*. It serves as the function of *utkleshana* or *dosha harana* or *shamana*. It is selected on basis of *dhosha*, *dushya* and *strotasa* so their main action is *samparpti vighatana*. *Rasnadi kalka* is a paste of finely powdered drugs. Most of the drugs are having *katu rasa*, *katu vipaka* and *ushna veerya* with *laghu* and *ruksha gunas*. These properties of the drugs help them in reducing vitiated *vata* and *kapha* dosha. Out of these 10 drugs 60% of drugs (*Rasna*, *Deodara*, *Vacha*, *Shatpushpa*, *Pippali*, *Ela*) are *shulahara* and 60% drugs (*Putika*, *Madanphala*, *Deodaru*, *Shatpushpa*, *Bilva*, *Rasna*) are *shothahara*.^[25]

Koshna jala as avapa

As the name suggests, *kwatha* is not used in this type of *basti*. Instead *churna* is used as main ingredient. For making it solution, *koshna jala* is used instead. In case of *churna basti* *Koshnajala* and *dhanyamla* is used as *avapa*. *Koshnajala* is *laghu* and *pathya*. It is *vatakaphahara*, *bastishodhaka* and indicated in disease like *Shwasa-Kasa* and *Jwara*. It reduces *ama* due to its *agnideepaka* property.^[26] As, the *avapa* used in *basti dravya* increases the *gunas* of *basti*. *Acharya Charaka* has explained the *avapa drva* and *dravya* as per the particular disease and *doshas*. *Dhanyamla* is *agnideepaka*, *amapachaka*, *vatakaphahara* in nature due to its *ushna*, *tikshna gunas*.^[27]

From above, it can be concluded that most of the drugs of *churna basti* are having *laghu*, *ruksha* and *ushna guna* which causes *depana*, *pachana*, *amahara* which in turn help to pacify vitiated *vatakapha* along with *ama*.

Mechanism through route of administration of basti

Rectal route is one of the systemic routes of drug administration. The drug administered through systemic route is intended to be absorbed into the blood and distributed all over the body including the site of action through circulation. Drug entering the rectum, absorbed into the external haemorrhoidal veins (about 50%) bypasses liver, but not that absorbed into internal haemorrhoidal veins. As the liver is bypassed, the bioavailability of drug increases. These absorb drug stimulates different nerves in the intestine so one can get stimulatory or

inhibitory effect on production of various hormones and neurotransmitters, which affects the whole body.^[28]

DISCUSSION

As the mechanism of action starts by absorption and the rate of rectal transmucosal absorption is affected by the following factors:

Formulation, Volume of liquid, Concentration of drug, Length of rectal catheter, Presence of stool in rectal vault, pH of rectal contents, Rectal retention of drug administered, Difference in the venous drainage within the rectosigmoid region. The formulation of *basti* is a major factor for absorption and distribution of the drugs. The volume mostly controls the retention of *basti* inside the lumen. Concentration of the *basti* also alters the therapeutic as well as absorption of the material. Rectal pH may also influence drug uptake by altering the amount of drug that is ionized. The greater lipid solubility of non-ionized drug enhances the movement across biological membranes. The rectal vault favors the absorption of the drugs whose pKa is near the physiologic range.

The presence of Na⁺ (*Saindhava*) in *basti dravya* may play an important role for the absorption of the drugs as Na⁺ channel is the most commonly utilized channel for the absorption of the substances. Sneha present in contains short chain and medium chain fatty acids. SCFA is rapidly absorbed and stimulates colonic NaCl and fluid absorption. It lowers the colonic pH which protects the colonic mucosal layer from formation of polyp, inhibits inflammation and adhesion of irritants and increases the mineral absorption. It influences the immune function of the body by production of T helper cell, leucocytes, cytokines. Moreover, it controls blood sugar and cholesterol level. The water-soluble substances (*kalka and avapa*) may be easily absorbed as the water moves in both the directions across the mucous membrane of small and large intestine.

Effect on colon: As *churna basti* is a type of *niruha* it also shows cleansing effect of colon. By its cleansing action it minimizes the toxin load in the large intestine resulting in reduced burden on liver, allowing the eliminative organs to function optimally. It could also prevent stagnation and minimize the exposure of carcinogenic agents to the colon wall. Thus, *basti* may affect the system by either cleansing the channel or by its potency that being absorbed spread throughout the body to pacify disease.

CONCLUSION

Preparation of *basti* plays important role in mechanism of action. Each ingredient of *basti dravya* has its role in mechanism. For the expected result of *basti* treatment or to increase the efficacy one must have knowledge about its preparation. From the above discussion it can be concluded that *churna basti* may be effective in condition of *vata kapha* dominance and condition of *ama*.

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