

UNDERSTANDING OF MATRA OR DOSAGE SYSTEM IN PANCHAKARMA

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ABSTRACT

Panchakarma procedures are the major assets for Ayurveda which are to be carried out with the proper *matra* or dosage system. In today's era, in modern practice, the dosages are decided on the basis of weight of the patient irrespective of gender, age, time, personal constitution. Whereas in *Panchakarma*, the *matra* fixation is not based on the above factors. It needs a broader as well as keen vision for deciding the same. Every *Panchakarma*, procedure has its own dosage system. This article throws light on various aspects involved in the process of dose fixation of various *Panchakarma* drugs, their standard dosages and complications occurring due to improper administration of these dosages.

Keywords *Matra*, dose fixation, *Panchakarma* Procedures.

INTRODUCTION:

Matra : The word “*Matra* or dose” has been given an immense importance in Ayurveda. The chapter ‘*Matrashiteeya*’ or the nomenclature of one type of *Basti* as ‘*Matra Basti*’ are the indications of it.

The importance of fixing the *Matra* or dose of the medicine during the treatment is such that the knowledge of the dose is said to be the characteristics of the best physician. It is said that no one can know the principles governing correct application of drugs simply by knowing their name and forms. A physician even ignorant of their form can be said to be a knower of the essence (of this science) if he is acquainted with the principles governing the correct application of drugs, let alone one who knows drugs in their entirety. In consonance with the place, dose, time and individual variation should be regarded as a best physician. So, every physician has must to know how does the dose fixed for the patients.¹

It is said that, the dosage system advised in *Kalpasthana* or elsewhere, is in the context of *Madhya* i.e. moderate nature of *Koshtha*

(nature of GIT), *Vaya* (*Madhyama* Age) and *Bala* (medium strength). The physician has to decide the nature of the increase and decrease of the dosages using his intellect. These *Yogas/Kalpas* / recipes described in the *Samhitas* are with reference to persons having moderate types of *Koshtha*-age-strength. Keeping this standard in view, changes in dosage could be increased or decreased.²

It is said that the curable diseases are cured by medicines possessing the opposite qualities, administered with due regard to the place dose and time. No medicine is to be prescribed for incurable diseases³. It is claimed that management or administration of the treatment protocol (*Yukti*) revolves around dose and time. Success expects the management of treatment protocol. A physician, proficient in the principles of propriety is always superior those who are acquainted with the drugs only.⁴

Dose fixation has always remained as a major issue in any medical pathy. In today's era, in modern practice, the dosages are decided on the basis of weight

of the patient irrespective of gender, age, time, personal constitution. Even further, it has been recognized that drug plasma concentrations could be affected by multiple factors including dose, formulation, form, route, frequency, administration time, drug-drug interaction, food-drug interaction, genetics, gender, age, body weight, pregnancy, circadian rhythms, comorbidities, pathophysiology status, and smoking.⁵

Regarding *Panchakarma*, it is said that in event of vitiated *Doshas* brought forth by *Oleation* and fomentation therapies, a physician should administer five elimination therapies paying due regard to the dose and time.⁶

Any treatment therapy depends on *Desh* (geological entity), *Kala* (time), ***Pramana (dosage)***, *Satmya* (adaptability), *Asatmya* (Non adaptability). These five factors are stated for appropriate treatment. So, whenever treating any patient, *Vdaiya* should always keep in mind the above five factors which will be helpful for achieving success. Otherwise even a useful therapy may turn out to be harmful.⁷

Importance of dosage system:

While discussing the treatment of all the three *doshas*, it is said that the general principles of treatment of vitiated *Doshas* are to be carried out within proper dose and time.⁸ Importance of dose fixation is explained by one example by *charaka*. It is said that a small amount of water cannot extinguish fire; similarly, medicine in small quantity (dose) cannot cure a disease. As irrigation with over flood is harmful for crops, similarly medicine in excessive quantity (dose) is harmful to patient.⁹ Even when, while elaborating '*karana*' (tool – as one of the *dasha vidha parikshya bhava*), it is said that the medicaments which are to be used, should

be examined with reference to their characteristics like nature, quality, specific action, place of growth, season of collection, mode of collection, method of preservation, method of processing, ***dosage in which employed***.¹⁰

Role of Matra in the management:

While treating the diseases caused by the increased quantity of excreta in various external orifices meant for excretion, *matra* has its own say. It is said that one should ascertain from signs and symptoms indicated in exact nature of the diseases due to the increase of the excreta and then should treat the curable one by prescribing the therapies which are having opposite qualities from the disease and their causes, paying due regard to the dose and time.¹¹

Protocols for Dose fixation:

- Primarily, the amount of food which, without disturbing the equilibrium (i.e. equilibrium of *Dhatus* and *Doshas* of body), gets digested as well as metabolized in proper time, is to be regarded as the proper quantity or '*yogya matra*'.¹²

While discussing the factors responsible for appropriate effect of purification therapies, it is said that¹³

- The Patient should have taken Oleation and fomentation therapies.
- The purification therapy should be given only after previous meal digested.
- The purgation therapy should be given in appropriate dose.
- The patient should take the therapy with concentration of mind.

Appropriate dose of the medicines for any treatment therapy (*Panchakarma* procedures) is characterized as follows¹⁴ -

- It should be small in quantity, but quick in action.
- It should be able to eliminate morbid *Doshas* in large quantity but easily.

- It should be light for digestion, palatable, pleasing and curative of the concerned disease.
- It should not cause serious complication.
- It should not cause depression in excess.
- It should possess agreeable smell, color and taste.'

While discussing the nature of the drugs which may produce the adverse effects are discussed, it is said that¹⁵ -

- Unseasonal and ultimately collected drugs.
- Administration in less or excess dose.
- Storage for a longer period after collection.
- Used without proper impregnation.
- Improperly proceeds.
- Importance of dose reflects all the things may produce adverse effect quickly. While designing any *yoga* or *kalpana* for *panchakarma*, it is to be understood that the ideal properties of *bheshaja* or medicines, by the virtue of appropriate *Samyoga*, *Vishlesha*, *Kala* and *Samskara*, even a small quantity of drug may produce powerful effect and other wise dose in

A. *Snehapana*:

Table no.1: Snehana matra^{16,17,18}

Sr.no	Type of Matra	Duration of Pachana
1	<i>Pradhana matra</i>	<i>Ahoratra 24 Hrs (8 Yama)</i>
2	<i>Madhyam matra</i>	<i>Aha.(Wholeday) 12 Hrs(4 Yama)</i>
3	<i>Hrasva matra</i>	<i>Ardha-Aha 6 Hrs (2 Yaam)</i>

Table no.2: Snehapana matra¹⁹

SR.NO	TYPE	Duration of Pachana
1	<i>Prathama</i>	Within 3 hours
2	<i>Dwiteeya</i>	Up.to 6 hours
3	<i>Truteeya</i>	Up.to 12 hours
4	<i>Chaturtha</i>	Up.to 18 hours
5	<i>Panchama</i>	Up.to 24 hours

According to *Arundatta* the *Hrisiyasi* dose of *sneha* is 1 *pala*.²⁰

Table no.3: Abhyantara Snehanpana matra²¹

Sr.no	Agni prakara	Sneha matra
1	Tikshanaagni	1 Pala
2	Madhyamaagni	2 Karsha
3	Mandagni	1 Karsha

B Vamana:

1. Dose decision as per the nature of shodhana :

- *Vamaka Kshaya Dravya Matra*²²
- *Vamaka Dravya Kashya Nirmanarha Pramana*²³

VamakaDdravya Jaavakuthaa 1 Kudava +Jala – 1 Aadhaka = ½ Avashishtha.

- *Vamka Kashaya Matra*²⁴)

Table no. 4: Dose of vamnopaga kashaya

Sr.no.	Matra Prakara	Dose
1	<i>Jyeshthaa martra</i>	9 prastha
2	<i>Madhyama matra</i>	6 prastha
3	<i>Kaniyasi mayta</i>	3 prastha

Table 5: Dose of Vamaka kalpa in the form of Churna Kalka and Avaleha all are same²⁵

Sr.no.	Matra type	Dose
1	<i>Uttkrushta Matra</i>	3 Pala (12 Tola)
2	<i>Madhyama Matra</i>	2 Pala (8 Tola)
3	<i>Hina Matra</i>	1 Pala (4 Tola)

B. Virechana:

1. Charaka has suggested administering 1 aksha (1 tola) of trivrutta kalka for virechana.²⁶

Table no.6: Virechnartha Aushadhi dravya pramana²⁷

Sr.no	Kashaya/fanta/hima	Matra
1	<i>Shareshtha</i>	2 Pala
2	<i>Madhayama</i>	1 Pala
3	<i>Kaniyasi</i>	½ Pala

C. Basti:

Matra basti²⁸ dose of Matra Basti is 2 Pala or 1 Pala

is equal to the minimum quantity prescribed for Anuvasana Basti. a/c Charaka su. 13/29 Sneha dose is max. 6 pala, med 3 pala, and min is 1 ½ pala.

Matra Basti Matra (quantity) of Sneha²⁹

The dose of Matra Basti is equal to the minimum quantity in which Anuvasana is prescribed to be administered. For matrabasti dose of fat i.e Sneha to be given

Quantity of Pichha Basti^{28A} - 12 Pala

1) Anuvasana Basti :

Table no.7:Anuvasana basti³⁰

Sr.no	Type of Matra	Matra
1	<i>Uttama</i>	6 Pala
2	<i>Madhyama</i>	3 pala
3	<i>Hina</i>	1.5 Palaa

2)Niruha Basti:

Table no.8:Niruha Baasti Matra³¹

Sr.no	Type Matra	Matra
1	<i>Uttamaa</i>	1.25 Prastha
2	<i>Madhyama</i>	1 Prastha
3	<i>Hina</i>	3 Kudava

Table no. 9: Matra of Niruha Basti as per age³²

Sr. no	Age	Dose	Sr.no	Age	Dose
1	1 Yr	½ Prasruta (1 Pala)	11	11 Yrs	5½ Prasruta (11 Pala)
2	2 Yrs	1 Prasruta (2 Pala)	12	12 Yrs	6 Prasruta (12 Pala)
3	3yrs	1½ Prasruta (3 Pala)	13	13 Yrs	7 Prasruta (14 Pala)
4	4yrs	2 Prasruta (4 Pala)	14	14 Yrs	8 Prasruta (16 Pala)
5	5 Yrs	2½ Prasruta (5 Pala)	15	15 Yrs	9 Prasruta (18 Pala)
6	6 Yrs	3 Prasruta (6 Pala)	16	16yrs	10 Prasruta (20 Pala)
7	7 Yrs	3½ Prasruta (7 Pala)	17	17 Yrs	11 Prasruta (22 Pala)
8	8 Yrs	4 Prasruta (8 Pala)	18	18 To 70 Yrs	12 Prasruta (24 Pala)
9	9 Yrs	4½ Prasruta (9 Pala)	19	70 Above	10 Prasruta (20 Pala)
10	10yrs	5 Prasruta (10 Pala)			

Table no.10: Uttara basti snehamatra for male³³

Sr.no	Age	Matra
1	< 25 yrs	2 Kaarsha
2	>25	1 Pala

Table no 11: Uttar basti sneha matra for female and adolescent girls³⁴

Sr.no	Vaya Avastha	Pramaana
1	Adult female by <i>Mutra maarga</i>	1 Pala
2	Girls	2 Karsha
3	Adult female by <i>apatyapatha</i>	2 Pala
4	Girls by <i>apatyapatha</i>	Contraindicated

D. Nasya:

Table no. 12: Shamana Nasya³⁵

Sr.no.	Type of Matra	Dose
1	<i>Hina matra</i>	8 drops in each nostrils
2	<i>Madhyama matra</i>	<i>Shukti Pramana</i> – 16 drops in each nostrils
3	<i>Uttama matra</i>	<i>Pani Shukti</i> – 32 drops in each nostrils

Table no.13: Snehasna Nasya³⁶

Sr.no	Type of aAtra	Dose
1	<i>Hina Matra</i>	4 drops
2	<i>Madhyama Matra</i>	6 drops
3	<i>Uttama Matra</i>	8 drops

Table no. 14: Avapida Nasya (kalka Nasya)Matra as like Virechana Nasya³⁷

Sr.no.	Type	Dose
1	<i>Hina</i>	4 Bindu
2	<i>Madhyama</i>	6 Bindu
3	<i>Uttama</i>	8 Bindu

Dhamapana Or Pradhamana Nasya -
 Aacharya Videha says the matra of *Dhamapana* is 3 *Mucchyuti*.
 Videhaa has also mentioned as 2 *Shukti* of *Churna Dravya* put in thin cotton cloth and make its *Pottali*, as inhaler take it by nostril, the quantity of *Churna Dravya* inhaled by patient is not too excess as his energy.

Dhoom Nasya- In this type of *Nasya* medicated smoke inhaled by nostrils and expelled through oral cavity vice-versa is strictly contra indicated. Because it is harmful to eyes.³⁸

Marsha and Pratimarsha Nasya-³⁹

This *Nasya* type is described by *Vaghbata Ashtanga Hrudya* on the basis of quantity i.e. dose of medicated oil.

Dose of Pratimarsha Nasya is- 2 Bindu.

Table no.15: Dose of Marsha Nasya is

Sr.no	Type	Dose
1	<i>Uttama</i>	10Bindu
2	<i>Madhyamaa</i>	8 Bindu
3	<i>Hina</i>	6 Bindu

***Nasya according to Sharangdhra*⁴⁰**

- Dose of *Tikshanaaushadi* = 1 *Shaan* (24 *Ratti*)
- Dose of *Hingu* = 1 *Yava* (Half *Ratti*)
- Dose of *Saindhava* = 1 *Masha* (6 *Ratti*)
- Dose of Milk = 8 *Shaan* = (64 Bindu)
- *Sharkara & Dalimb* = 1 *Tola*
- *Jala* = 3 *Tola*.

Decision of Matra selection in panchakarma:

• In *Panchakarma*, Dosage system holds a lot of importance. Every procedure (*Karma*) has its own dosage system. While discussing about dose or *Matra* of food, which expects the *Bala* or strength of the *Agni*, it is said that *Bheshaja Matra* expects *Vyadhi Bala* or *Atura Bala* apart from *Agni Bala*⁴¹. *Matra* or dose should always be such that it should not create any harm (*Anapaayi Parimanam*).⁴²

• The dosage of the decoction of *Madanphala* fruit as all of the other drugs used in elimination therapy is to be determined according to the individual's needs. In other words, the quantity, which, when taken bring about the desired effect in the form of elimination of the vitiated *Doshas* which does not cause the over-

elimination or inadequate elimination, is to be regarded as the proper dose for the patients.⁴³

- The dosages of the drugs to be used in *Panchakarma* are generally fixed according to quantity of the humors of the patient (*Dosha*), potency of the drug (*Bheshaja*), strength of the patient (*Bala*), nature of the *Koshta* of the patient (in *Virechana- Mrudu Koshta* requires lesser quantity while *Krura Koshta* needs the more), *Prakruti* of the patient (*Pitta Prakruti* patients need the lesser quantity of *Gomutra* in *Basti*), *Satmyata* of the patient (*Snehasatmya* patients need more quantity of *Sneha* for *Snehapana* meant for *Shodhana*), age of the patient (*Vaya*), condition of the disease (*Avastha*). Other factors like geological position of the patient & procedure (*Desha*), time (*Kala*) also play an important role in deciding the procedure.⁴⁴

Types of Matra and its interpretation in terms of Panchakarma –

Ahara Matra is classified into two types –
 1. *Sarva graha rupa* 2. *Parigraha Rupa*⁴⁵.
 In the context of *Panchakarma*, the same classification can be applied as follows.

It can be understood that the quantity of the whole *Vamaka Dravya* along with *Vamanopaga Dravya* should be considered as *Sarva Graha* and the individual identification of the dosages of each medicinal factor as *Pari Graha*. Both the calculations are equally important. Any miscalculation in any of the quantities can lead to the complications. Same rules are applied while quantifying *Basti* as a whole or individually according to its individual ingredient.

Different criteria for the dose fixation in Panchakarma:

1. Strength of the patient^{46,47} –

Elimination therapies are to be administered to such of persons as are having corpulent, strong body and who suffers from diseases due to abundance of *Kapha* and pitta, blood and excreta combined with the vitiation of *Vata*. If strong individuals suffer from diseases of moderate nature, such diseases can be cured by physical exercises and exposure to sun and wind. It goes without saying that diseases of mild nature of these individuals can also be cured by the same devices.

2. Quantity of Doshas⁴⁸ For elimination of *Doshas* in larger quantity, higher dose is needed. If *Doshas* are more and the dose given is smaller one, it may create *Ayoga* of the procedure. If the *Doshas* are lesser in quantity and higher dose is given, it may create *Atiyoga* of the procedure.

3. Strength of the disease –^{49,50,51}

Strong, moderate, and mild disease are characterized by the manifestation of all the symptoms, , manifestation of only some symptoms which are of moderate nature, and manifestation of only some symptoms which are of mild nature respectively. For such strong mild moderate diseases, therapies of strong,

moderate, mild are to be used respectively provided the patient is strong, of strong strength, or f mild strength. (The patient who is of strong strength should be given strong therapy, the one who is of moderate strength should be given moderate therapy, and the patient is of mild strength should be given mil therapy.

4. Age of the patient - Dose of the *Niruha* & *Anuvasana* is decided on the basis of age of the patient.⁵²

5. Koshtha of the patient (*Virechana* Or *Basti* drugs) – for the *Krura Koshthi* patient, the dose of *Virechana* medicine will be more than other types of koshtha⁵³

6. Agni bala of the patient (*Sneha matra* decision) – Dose of *Snehapana* is primarily decided upon the strength of *Agnibala*⁵⁴. It depends upon the duration of digestion of *Sneha* taken on the previous day; the dosages vary as per the digestive capacity of the individual.

7. Veerya or Potency of the medicines- The quantity of certain *Bastis* may have been decided on the basis of the potency of the drugs or might have been decided by the experience.

E.g. *Yaapana Basti* are having 720ml as standard quantity while *Vaitarana Basti* is having the least quantity. This difference might be due to the difference in the potencies of the ingredients used in both the *Bastis*.

8. Route of administration – *Ghreya yoga* of *Madanaphala Pippali* powder is different than that when used orally.⁵⁵

9. Formulation of the drug to be used – various *Yogas* or *Kalpas* explained in *Kalpasthana* has separate dosage system than each other. The role of dosages in *Panchakarma* can be seen from the fact that at various places in *Kalpasthana*, *Charaka* had advised individual dosages of the *Kalpas*.

Table no. 16: Different dosage of medicines mentioned in Charak kalpasthana

SR.NO	TITLE	REF
1	<i>Madanphala – Antarnakhamushathi</i>	Ch.Ka. 1/14
2	<i>Jimutaka – Kola Matra</i>	Ch.Ka 2/11
3	<ul style="list-style-type: none"> • <i>Ekshawaku – 1 Prastha</i> • <i>Vardhamana Ekshawaku Bija Prayoga –Ekshawaku Bija Matra Kashyartaha –</i> • <i>Ekshawaku Bija in Leha yoga – 1 Anjali i.e 1 Pala</i> 	<i>Ch. Ka.3/5</i> <i>Ch.Ka 3/13</i> <i>Ch. Ka. 3/14</i> <i>Ch.Ka 3/15</i>
4	<i>Dhamargava- Matra not Specified</i>	<i>Ch. Ka 4</i>
5	<i>Vatsaka – Matra not specified</i>	<i>Ch.Ka 5</i>
6	<i>Kritavedhana – according to Bala 1 or 2 in no.</i>	<i>Ch. Ka 6/7</i>
7	<ul style="list-style-type: none"> • <i>Shama Trivrutta- 1 Akasha I.E Karsha</i> • <i>Trivrutta Avaleha – Panitala I.E 1 Karsha</i> • <i>Kalyanaka Guda – Udumbara Pala Pramana Gutika</i> • <i>Vyoshadi Modaka – 1 Pala</i> • <i>Pathyadi Modaka – Pathya & Nishotha</i> 	<ul style="list-style-type: none"> • <i>Ch. Ka 7/38</i> • <i>Ch.Ka. 7/38-39</i> • <i>Ch. Ka 7/40-44</i>
8	<i>Aaragvdhadi leha – Rughnabala nusar</i>	<i>Ch. Ka 8/7</i>
9	<i>Tilwaka – Lodhrakampillaka Yoga 1 Karsha</i>	<i>Ch. Ka 9/10</i>
10	<i>Sudha – Matra not specified</i>	<i>Ch. Ka.10</i>
11	<i>Saptala-Shankhini- Kalka 1 Aksha</i>	<i>Ch. Ka 10/8-10</i>
12	<i>Danti-Dravnti- Mula Churna 1 Karsha</i>	<i>Ch. Ka. 12/7</i>

9. **Parigraha factor** – Individual quantity of the drug may be changed as per the involvement of *Dosha* (eg. – Quantity of *Sneha* as 1/6th , 1/8th or 1/4th of the total quantity of *Niruha*)⁵⁶. Different *Prasrutayogya Basti* is the best example of *Parigraha Vichara* of *Matra* in *Panchakarma*.

Table no. 17: Niruha Basti Madha & Sneha Pramana⁵⁷

Sr.No.	<i>Sneha Pramana</i>	<i>Madhu Pramana</i>
<i>Vata</i>	<i>6 Pala</i>	<i>4 Pala</i>
<i>Pitta</i>	<i>3 Pala</i>	<i>4 Pala</i>
<i>Kapha</i>	<i>4 Pala</i>	<i>6 Pala</i>

Table no.18: Niruha Basti Nirnanarha Dravya Matra 12 Prastu⁵⁸

Sr.No	<i>Dravya</i>	<i>Pramana</i>
1	<i>Saindhava</i>	<i>1 Aksha</i>
2	<i>Madha</i>	<i>2 Prasuta</i>
3	<i>Sneha</i>	<i>3 Prasutha</i>
4	<i>Kalka</i>	<i>1 Prasurtha</i>
5	<i>Kashayama</i>	<i>4 Prasrutha</i>
6	<i>Aavapa (Prakshepa)</i>	<i>2 Prasrutha</i>
7		<i>Total 12 Prasruthaa</i>

Table no. 19: Different Niruha Basti mentioned in Charaka Sidhisthana

Sr	Name Of Basti	Contents
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no.		
1	<i>Panchaprasrutika Basti</i>	<i>Kseera 2 Prasruta , Madha, Taila, Ghrita1 Prasruta Each.(Cha. Sidd 8/4)</i>
2	<i>Ashtaprasrutika Basti</i>	<i>Taila, Prasanna, Madhau, Ghrita Are 1-1 Prasruta Each. Dashmula Kashaya, Kulatha Kashaya 2-2 Prasurata Each. (Cha. Sidd 8/5)</i>
3	<i>Navaprasrutika Basti</i>	<i>Bruhata Panchamula Kashaya 5 Prasruta, Taila 2 Prasruta. Madhu ,Ghrita 1-1p Rasruta Each. (Cha. Sidd 8/6)</i>
4	<i>Chatvar Prasrutika Basti</i>	<i>Madhu, Taila, Ghrita, Ksheera 1-1 Prasruta Each. Saindhava 1/2 Karsha, Hapusha Kalka 1 Karsha. (Cha. Sidd 8/7)</i>
5	<i>Chatvara Prasruta Basti</i>	<i>Taila , Gomutra, Dadhi Manda, Amal Kanji 1-1 Prasruta Each. And Saarshapa Kalka. (Cha. Sidd 8/12)</i>
6	<i>Panchaprasruta Basti</i>	<i>Kashaya of Gokshura, Pashanabhera, Erandamula 1-1 Prasruta each. Suraasav, Taila 1- 1 Prasruta Each 1 Prasruta Kalka of Yashtimaadhu, Harenuka, Pippali And Sita. (Cha.Sidd. 8/13-14)</i>
5	<i>Panchatikta Panchaprasrutika Basti</i>	<i>4 Prasarutaa Kashaaya Of Patola, Nimba, Bhunimba, Rasna, Saptachada, & 1 Prasruta Ghrita. (Cha. Sidd 8/8)</i>
6	<i>Shataprasrutika Basti</i>	<i>5 Prasruta Kashaya of Vidanga, Haritaki, Bibhitaka, Aamalki, Shigru, Madanphala, Aakhupaaarni, and Taila 1 Prasruta. (Cha. Sidd 8/9-10)</i>
7	<i>Saptaprasrutika Basti</i>	<i>Kashaya Of Paysyaa, Ekshu, Rasna, Vidari, Kalka of Pippali Ghrita, And Pippali all are 1-1 Prasruta Each. (Cha. Sidd 8/11)</i>

Role of Matra or dose in creating the

Vyapata:

A. Movement in reverse direction.⁵⁹

Intake of purgation *Kalpa* by a patient who is aggravated *Kapha* may produce action in reverse direction i.e may cause emesis because of following factors-

- Foul odour of *Virechakakalpa*.
- Unpalatability of *Virechakakalpa*.
- Large quantity of *Virechakakalpa*.
- Intake of *Kalpa* before the previous meal is digested.

Similarly, emetic *Kalpa* may produce purgation because of following factors-

- Affliction of patient with hunger.
- Laxed bowel.
- Less excitement of *Kapha*.

- *Tikshntava* (sharpness) nature of the drugs.
- *Shitata* or stagnation of the *Vamaka* yoga.
- *Kshubdhataavai.e* agitating nature of the *Vamaka kalpa*.

B. The dosages of medicines are having a lot of importance in the outcome of any *Panchakarma* procedure. Variations are to be carried out in such a manner that the outcome will reach near to *Samyaka Lakshana* explained in the texts. While administration, any wrong judgment in the assessment of various factors may lead the physician for the wrong assessment of the dose fixation. Following are some examples that the wrong fixation of the

dosages may lead to *Vyapat* in *Vamana*, *Virechana* or *Basti*.

Table no.20: Different *Vyapada* occurred due to improper dosage of *Basti*

Sr.no	Nature of <i>Dravya</i>	<i>Matra</i>	<i>Aatura Avastha</i>	Name of complication	effect
1	<i>Samshodhana yoga</i> (Purificatory recipe)	Small dose	person having excessively aggravated	<i>Paristrava</i> (Ch.Si7/58)	Eliminate morbid <i>Doshas</i> frequently in small quantities.
2	mild recipe of enema	Small dose	excessively aggravated <i>Dosha</i>	<i>Pravahika</i> (Ch.Si7/40)	eliminates morbid material (<i>Dosha</i>) only in small quantities
3	enema recipe which is thin, mild and cooling is administered in a to a, then the	Small dose	patient who is weak, who has costive bowel and who is afflicted with exceedingly aggravated <i>Doshas</i>	<i>Shiroarti</i> (Ch.Si.7/43)	Fluid gets occluded by <i>doshas</i> .
4	Ingredients of enema which are <i>Guru</i> and <i>Tikshana</i> .	Large dose	Without Oleation and fomentation therapies enema is given	<i>Angaarti</i> (Ch.Si748/)	There will be excessive elimination
5	an enema without <i>Ununcutous</i> and sharp ingredients	Large dose	patient who has relaxed bowel and has less aggravated <i>Doshas</i>	<i>Parikatika</i> (Ch.si7/54)	Immediately eliminates <i>Doshas</i> ,

So, the physician should always look for the proper dosages of any *Panchakarma* procedure after assessing every factor.

DISCUSSION: The dosages of *Niruha Basti* change according to the age of the patient, indirectly changing the dosages of *Sneha Basti* also. The children group has the increasing *Matra* of *Niruha* till the age of 18. Then it remains same for all the adults till the age of 70. From the age of 70 years and onwards, it remains as 10

Prasruta. So, the children group and old age group have different set of dose than the middle age group of patients. The dose of *Niruha* remains stable for the whole adult group irrespective of the quantity of *Doshas*, irrespective the nature of the disease, irrespective strength of the patient, disease and *Agni*.

The change in the dose system of *Marsha* and *Pratimarsha Nasya*, *Sneha Basti* and *Matra Basti* shows that the dosages in

Panchakarma require different set of understanding. The quantity of *Doshas*, the strength of the patient, the ability of the patient to follow the rules is the reasons explained while reasoning behind the indications of *Matra Basti*.

It is said that *Pratimarsha Nasya* can be followed as routine practice while *Marsha Nasya* cannot be. The only difference between these two is just the difference in the dosage. It is said that though *Marsha Nasya* has certain set of rules to be followed, has the risk of having complications, it is recommended. It is so, because it has the faster results and delivers the best possible results from *Nasya* than *Pratimarsha*. This rule applies to the *Anuvasana* and *Matra Basti* also. Change in the dosages of the drugs make the difference in the speed of the effect, the quality of effect, needs separate rules in diet and behavioral pattern, changes the risk of complications.

The quantity of the targeted *Doshas* decides the dose of the *Nasya*. When one requires achieving *Uttama Shuddhi* through *Nasya*, one will need *Uttama Matra* of *Nasya*. *Uttama Shuddhi* is required when the quantity of *Doshas* inside the *Srotasas* will be more. *Hina Shuddhi* is carried out when the quantity of *Doshas* will be lesser in quantity. So, in *Nasya* when the quantity of *Doshas* will be more, the dose of *Nasya* drug will be more.

Modern science does not have shown such diversity in keeping the flexibility in changing the dosages of their drugs. It still revolves mostly around the weight of the patient.

Having the knowledge about fixing the dosages makes the physician perfect. Texts had elaborated importance of the dosage system at several places. Various factors

like strength of the patient- disease- *Doshas*- *Agni*, potency of the drug, age and *Koshtha* of the patient, take part in deciding various dosages in *Panchakarma*. The proper or *Samyaka* signs and symptoms cannot be achieved until and unless, the procedure is carried out in proper dosages and in proper time.

If one makes the mistake in understanding the dosages, *Vyapat* are inevitable and bound to happen.

CONCLUSION: Carrying out any *karma* amongst *Panchakarma* is a skillful work. It requires the perfect knowledge of the dose and time. Using *Yukti Pramana*, a physician achieves the success in it.

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Source of support: Nil Conflict of interest:

None Declared

Cite this Article as :[Shaikh Akhil Shaikh Chand et al: Understanding of Matra or Dosage System in Panchakarma] www.ijaar.in : IJAAR VOLUME IV ISSUE VII MARCH -APRIL 2020 Page No: 758-773