

**MANA IN BHAISHAJYA KALPANA: A CRITICAL REVIEW**Rachana Sharma<sup>1</sup>, Govind Sahay Shukla<sup>2</sup>, Rajaram Agarwal<sup>3</sup>, Manisha Goyal<sup>4</sup><sup>1</sup>M.D. Scholar (P.G. Department of Rasa shastra and Bhaishajya Kalpana),<sup>2</sup>Prof. & H.O.D. (P.G. Department of Rasa shastra and Bhaishajya Kalpana),<sup>3</sup>Associate. Prof. (P.G. Department of Rasa shastra and Bhaishajya Kalpana),<sup>4</sup>Associate. Prof. (P.G. Department of Rasa shastra and Bhaishajya Kalpana),

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**ABSTRACT**

The utility of weights and measures is an integral part of today's life. From any part of human history, the indirect or direct clues for the use of measuring units can be readily traced. This system of measurements is considered a basic principle when it comes to the study of any sciences. *Rasashastra* and *Bhaishajya Kalpana* in *Ayurveda* deal with studies on medicine dosage and administration in the prescribed manner. In ancient *Mana* methods of *Magadha Mana* and *Kalinga Mana* are compared in this article. *Pautavamana*, *Druvayamana*, and *Payyamana* are three types of *mana* based on the nature of the substance that is highly useful in *Aushadha sevan matra*. Therefore, for all purposes (pharmaceutical as well as therapeutic) the consideration of '*Mana*' is essential. Because of the greater significance laid upon '*Mana*' in the field of medicine.

**Keywords:** *Mana*, *Magadha mana*, *Kalinga mana*, *Pautavamana*, *Druvayamana*, *Payyamana*.

## INTRODUCTION

*Mana* is an inseparable part of our knowledge and studies. Without the knowledge of '*Mana*' one can never expect to have a thorough approach to any subject matter. *Mana* is defined as the system of measurement, based on the measures of weight, length, or capacity. Nowadays M.K.S or C.G.S or F.P.S method is used for measurement for a different form. Depending on the area in which the systems of measurements prevailed, they are classified as - 1. *Magadha mana* (Followed by *Acharya Charaka*) 2. *Kalinga mana* (Followed by *Acharya Sushruta*) In *Amara kosha*, *Mana* was classified as *Pautavmana*, *Druvayamana*, *Payyamana*. This *mana* indicates the weight, volume and lengthwise measurement respectively. According to British Pharmacopia: 1. Imperial System, 2. Metric System *Mana* is an inseparable part of our knowledge and studies. Without the knowledge of '*Mana*', one can never expect to have a thorough approach to any subject matter.

- To study measurement in our classics
- It is inseparable and most essential in all eight branches of *Ayurveda*.
- Plays a crucial role in quadruples of treatment.
- For quantitative assessment of body constituents.
- Raw drug collection
- Preparation of different *Kalpana*'s
- *Anupana matra*

***Magadha mana:*** -

**(a) Acco. to *Acharya Sharangdhar:*** -

30 Parmanu	1 Vanshi	
6 Vanshi	1 Marichi	
6 Marichi	1 Rajika	
3 Rajika	1 Sarshapa	
8 Sarshapa	1 Yava	
4 Yava	1 Gunja (Ratti/Rakti)	125 mg
6 Gunja	1 Masha (Rajmasha, Hem, Dhanyak)	750 mg
4 Masha	1 Shana (Tank, Dharan)	3 gm
2 Shana	1 Kola (Kshudrak, Vataka, Drakshana)	6gm
2 Kola	1 Karsha (Panimanika, Aksha, Akshapichu, Panitala, Kinchitpani, Tinduka, Vidalpadaka, Shodashika, Karmadhya, Hanspada, Suvarna)	12gm
2 Karsha	1 Shukti (Ashtmika, Ashtamansha)	24gm
2 Shukti	1 Pala (Amra, Mushti, Chaturthika, Prakuncha, Shodashi, Bilva)	48gm

- Preparation of *Ahara kalpana* (*Pathya kalpana*)
- To quantity the drugs for all purposes.
- To fix the doses etc.
- According to *Acharya Agnivesha* *Mana*, is considered for the following things: *Dosha*, *Bala*, *Satmya*, *Bheshaja*, *Sharira*, *Satwa*, *Desh*, *Sara*, *Prakruti*, *Kala*, *Ahara*, *Vaya* etc.

**Differences in *Magadha mana* and *Kalinga mana:*** -

1. *Acharya Sharangdhar* considers *Magadha mana* as superior to the *Kalinga mana*.
2. *Magadha mana* prevailed in *Maurya* dynasty in *Magadha desha*, and *Kalinga mana* prevailed in *Kalinga desha* which was ruled by *Kalinga* kings.
3. *Magadha mana* was followed by *Maharshi Charaka* and *Kalinga mana* by *Maharshi Sushruta*.
4. In *Magadha mana* 6 *Gunja* will be 1 *Masha* (750 gm) whereas in *Kalinga mana* 8 *Gunja* will be 1 *Masha* (1000 mg or 1 gm)
5. *Amarkosha*- Depending on the nature of the measuring material, the *Mana* is classified as - *Pautava mana*- To measure the weight of solid content, *Druvayamana*- To measure the quantity of liquid, *Payyamana*- To measure the length of the herbal drugs, medical instruments, patient height, pharmacy measurements etc.

2 Pala	1 Prasrata (Ardhanjali)	96 gm
2 Prasrata	1 Kudava (Anjali, Ardha saravaka, Ashtamana, Ashtashukti)	192gm
2 Kudava	1 Manika (Sarava)	384gm
2 Manika	1 Prastha	768 gm
4 Prastha	1 Adhaka (Bhajan, Kanspatra)	3.072 kg
4 Adhaka	1 Drona (Kalansh, Nalvana, Unmana, Ghta, Rashi)	12.228 kg
2 Drona	1 Shurpa (Kumbha)	24.576 kg
2 Shurpa	1 Droni (Vahi, Goni)	49.152 kg
4 Droni	1 Khari	196.608 kg
2000 Pala (20Tula)	1 Bhara	96 kg
100 Pala	1 Tula	4.8 kg

**(b)Acco. to Acharya Charaka: -**

6 Dhwanshi	1 Marichi
6 Marichi	1 Raktsarshapa
8 Raktsarshapa	1 Tandula
2 Tandula	1 Dhanyamash
2 Dhanyamash	1 Yava
4 Yava	1 Andika
4 Andika	1 Masha (Hem, Dhanyak)
3 Masha	1 Shana
2 Shana	1 Drankshan (Kol, Badar)
2 Drankshan	1 Karsha (Suvarna Aksha, Vidalpataka, Pichu, Panitala, Tinduka, Kavalgrah)
2 Suvarna	1 Palardh (Shukti, Ashtmika)
2 Palardh	1 Pala (Mushti, Prakunch, Chaturthika, Bilva, Shodashika, Amra)
2 Pala	1 anjali (kudava)
2 Kudava	1 manika
4 Kudava	1 prastha
4 Prastha	1 aadhaka (kansa)
4 Kansa	1 drona (armana, nalvana, kalash, ghata, unmana)
2 Ghata (Drona)	1 Shurpa
2 Shurpa	1 Goni (Khari, Bhara)
32 Shurpa	1 Vaah
100 Pala	1 Tula

**(c)According to Acharya Sushruta: -**

12 Dhanyamash	1 Suvarnamash (1 Masha)
16 Suvarnamash	1 Karsha (Suvarna 1 Tola)
19 Nishpav	1Dharan
2.5 Dharan	1 Karsha (Tola)
4 Karsha	1 Pal (4 Tola)
4 Pala	1 Kudawa (3 Chatank 1 Tola)
4Kudawa	1 Prastha (12 Chatank 4 Tola)
4 Prastha	1 Aadhaka (3 Ser 3 Chatank 1 Tola)
4 Aadhak	1 Drona (12 Sera 12 Chatank 4 Tola)
400 Karsha	1 Tula (5 ser)
20 Tula	1 Bhar (100 ser)

**Unit of Mana in classics texts**

S.NO.	MANA	CHARAKA	SHARANGDHAR	SUSHRUTA
1	Parmanu	-	+	-
2	Vanshi (Dhawanshi)	+	+	-
3	Marichi	+	+	-
4	Rajika		+	-
5	Sarshapa	+	+	-
6	Tandula	+		-
7	Dhanyamasha	+		-
8	Yava	+		-
9	Andika	+	-	-
10	Gunja (Ratti/Rakti)	+	+	-
11	Masha (Hem, Dhanyak)	+	+	+
12	Shana (Tank, Dharan)	+	+	+
13	Kola (Drankshan, Kol, Badar)	+	+	-
14	Karsha (Panimanika, Aksha, Akshapichu, Panitala, Kinchitpani, Tinduka, Vidalpadaka, Shodashika, Karmadhya, Hanspada, Suvarna)	+	+	+
15	Shukti (Ashtmika, Ashtamansha)	+(palardh)	+	-
16	Pala (Amra, Mushti, Chaturthika, Prakuncha, Shodashi, Bilva)			+
17	Prasarata (Ardhanjali)	+	+	-
18	Kudawa (Anjali, Ardha Saravaka, Ashtamana, Ashtashukti)	+	+	+
19	Manika (Sarava)	+		-
20	Prastha	+		+
21	Aadhaka (Bhajan, Kanspatra)			+
22	Drona (Kalansh, Nalvana, Unmana, Ghta, Rashi)			+
23	Shurpa (Kumbha)			-
24	Droni (Vahi, Goni)	+		-
25	Goni (Khari, Bhara)	+	+	+
26	Vaah	+	-	-
27	Tula	+	+	+

**Chaturguna niyam by Acharya Sharangdhara**

Mana	Equivalent	Metric equivalent	Synonyms
4 Masha	1 Tanka	3 gm	Shana, Dharana
4 Tanka	1 Aksha	12 gm	Karsha, Panimanika, Akshpichu, Paniatala, Kinchitpani, Tinduka, Vidalpadaka, Shodashika, Karamadhya, Hanspada, Suvarna
4 Aksha	1 Bilva	48 gm	Pala, Mushtiamra, Chaturthika, Prakuncha, Shodashi
4 Bilva	1 Kudava	192 gm	Anjali, Ardhsaravaka, Ashtashukti
4 Kudava	1 Prastha	768 gm	
4 Prastha	1 Aadhaka	3 kg	Bhajan, Kanspatra
4 Aadhaka	1 Rashi	12.288 kg	Drona, Kalansh, Nalvana, Unmana, Ghata
4 Rashi	1 Droni	49.152 kg	Vahi, Goni
4 Droni	1 Khari	196.6 kg	

**Kalinga Mana: -**

12 Gaursarshapa	1 Yava	
2 Yava	1 Gunja	125mg
3 Gunja	1 Valla	375mg
8 Gunja	1 Masha (Acco to some 7 Gunja = 1Masha)	1000 mg or 1 gm
4 Masha	1Shana	4gm
6 Masha	1 Gadhyan	6gm
10 Masha	1 Karsha	10gm
4 Karsha	1 Pala (10 shana)	40gm
4 Pala	1 Kudava	160gm

**1. Pautavamana (Measurement of weight)- Rasvagbhatokta Pautavamana chart: -**

6 Anu	1 Truti
6 Truti	1 Liksha
6 Liksha	1 Yuka
6 Yuka	1 Raja
6 Raja	1 Sarshap
6 Sarshap	1 Yava
6 Yava	1 Gunja
2 Gunja	1 Nishpav
3 Gunja	1 Valla
2 Valla	1 Masha
2 Masha	1 Dharan
2 Dharan	1 Shan (nishka, kala)
2 Nishka	1 Vataka(kola)
2 Kola	1 Tola (Karsha, Nishka, Chatushtya, Udumbar, Panitala, Suvarna, Kavalgraha, Vidalpadaka)
2 Tola	1 shukti
2 Shukti	1 pala (as per other opinion 3 shukti- 1 pala)(Mushti, prakunch, vilba)
2 Pala	1 prasarta
2 Prasrara	1 kudava (1 anjali)
2 Kudava	1 manika
2 Manika	1 prastha
2 Prastha	1 shubh
2 Shubh	1 patraka (aadhak, bhajan, patra)
4 Aadhak	1 drona (ghata, unmana, nalvana, arman, kumbhak)
100 Pala	1 tula
4000 Pala/40 Tula	1 bhara

**Bhartiya Pautavamana: -**

6 Ratti	1 Ana
24 Ratti	4 Ana
48 Ratti	8 Ana
96 Ratti	1 Rupee
5 Tola	1 Chatanka
4 Chatanka	1 Pava
8 Chatanka	0.5Sera
16 Chatanka	1 Sera
40 Sera	1 Man
27 An	1 Tan

**2. Druvayamana (Measurement of liquid)-** *Druvayamana* is the measure of capacity. The smallest unit here is 'Bindu'(drop). One *Bindu* is a drop of liquid that falls from the index finger after it is lifted from the water.

According to *Ashtang Hridaya*

8 Bindu	1 Shana (16 drops will make 1 ml)
32 Bindu	1 Shukti
64 Bindu	1 Panishukti

**3. Payyamana (Measures of length)-** One *Angula* is said to be the basic unit here, explained as the length of 8 *Yava* brought together in one thread or placed one besides the other.

Classical units	Inches	Metric equivalents
<i>Yavodara</i>	1/8 or 3/4 inch	0.24 cm
<i>Angula</i>	3/4 inch	1.95 cm
<i>Vitasti</i>	9 inches	22.86 cm
<i>Aratni</i>	10 ½ inch	41.91 cm
<i>Hasta</i>	18 inches	45.72 cm
<i>Rajhasta</i>	22 inches	55.88 cm
<i>Vyama</i>	72 inches	182.88 cm

***Pashchatya mana paribhasha (Weight and measures Acco. to Modern): -***

There are two systems of weights and measures (a) Imperial system (b) Metric system. The imperial sys-

tem is an old system based on arbitrary and unrelated units. The metric system or decimal system is based on related and rationally derived units

**Metric system: -**

1 kilogram (Kg)	1000 gm
1 Hectogram (Hg)	100 gm
1 Decagram (deg)	10 gm
1 Gram (gm)	1 gm
1 Decigram (dg)	0.1 gm (100 mg)
1 Centigram (cg)	0.01 gm (10 mg)
1 Milligram (mg)	0.001 gm (1 mg)
1 Microgram (mcg)	1/1000 mg

**Domestic measures:**

1 drop	1 minim	0.06 ml
1 teaspoonful	1 fl. Drachm	4 ml
1 dessert spoonful	2 fl. Drachm	8 ml
1 table spoonful	4fl. Drachm	15 ml
2 table spoonsful	1 fl. Ounce	30 ml
1 wine glassful	2 fl. Ounce	60 ml
1 tea cupful	4 fl. Ounce	120 ml
1 tumblerful	8 fl. Ounce	240 ml

**Imperial system:** - The imperial system of measurements uses ounces and pounds to measure weight; pint and gallons to measure volume; inches, feet, and yards to measure length. Some of the useful measuring units are below: -

**Metric system of weight**

10 miligram	1 centigram
10 centigrams	1 decigram
10 decigrams	1gram
10 grams	1decagram
10 decagrams	1 hectogram (100gm)
10 hectograms	1 kilogram
1000 kg	1 metric ton

**Metric system of liquid weight**

1 deciliter	1/10 litre
1 centilitre	1/100 litre
1mililiter	1/1000 litre
1 decaliter	10 litres
1 hectoliter	100 litres
1 kiloliter	1000 litre

**Metric system of length**

1 meter	39.37 inch
1 decimeter	1/10 meter
1 centimetre	1/100 meter
1 millimetre	1/1000 meter
1 decameter	10 meters
1 hectometer	100 meters
1 kilometre	1000 meter

**Kala mana (Measurement of time):** While preparing the different medicines, the time adjustment should be taken into consideration and the time of medicine administration after preparation, preservative time also will be decided to depend upon the Ka-

la (Time). *Kala mana*, the measuring unit of time is mentioned at different instances in the classics. The basic units include *Nimesha* (closing eyelids) and *Unmesha* (opening eyelids) together as one *Matra kala*.

1 <i>Ksana</i>	4/5 of a sec, an instant, a moment(0.38sec)
2 <i>Ksana</i>	1 <i>Lava</i> (1/6 <sup>th</sup> of a wink) (0.77sec)
2 <i>Lava</i>	1 <i>Nimesha</i> (1.55 sec)
3 <i>Nimesha</i>	1 <i>Kashtha</i> (1/30 <sup>th</sup> of kala) (4.66 sec)
30 <i>Kashtha</i>	1 <i>Kala</i> (2 min 20 sec)
20 <i>Kala</i> +3 <i>Kashtha</i>	1 <i>Muhurata</i> (48min)
1/2 of <i>Muhurata</i>	1 <i>Ghati</i> (24 min)
30 <i>Muhurta</i>	1 <i>Ahoratra</i> (24 hrs) (8 Yama)
1 <i>Yama</i> or 1 <i>Prahara</i>	3 hours
15 <i>Ahoratra</i>	1 <i>Paksha</i> (15 days)

2 Paksha	1 Mas (30 days)
2 Mas	1 Ritu (60 days)
3 Ritu	1 Ayana (6 months)
2 Ayana	1 Samvatsara (12 months)
5 Samvatsara	1 Yuga (5 years)

## DISCUSSION

The utility of weights and measures is an integral part of our day-to-day life. In *Ayurveda Mana* plays an important role in the preparation of drug formulation to drug intake, *Pathya*, *Anupana* etc. This 'system of measurements' is considered as a basic principle when it comes to the study of any sciences. In our classics, different types of *Mana* are explained: *Magadha mana*, *Kalinga mana*, *Pautava mana*, *Payya mana*, *Druvaya mana*, *Kala mana* etc. *Acharya Sharangdhar and Charaka* write *Magadha mana* as superior among both. *Acharya Charaka* deal with the smallest unit of *Magadha mana* is 'Dhawanshi' and *Sharangdhar* smallest unit of *Magadha mana* is 'Parmanu'. Acco. to *Charaka* 3 masha is equal to 1 Shana and Acco. to *Sharangdhar* 4 Masha is equal to 1 Shana, But from *Kola to Goni* there is no change. Mostly the *Pautavamana* is used in the reference of *Aushadha sevan matra*, *Aushadha nirman matra* etc. *Payyamana* used in the reference of *Dhumpana*, *Puta*, *Sharair pramana*. *Druvayamana* used in *Avleha kalpana*, *Nasya kalpana*, *Aasava-Arishta*, *Ksheerpaaka*. Metric equivalents of weights and measures, linear measures and measurement of time used in the *Ayurvedic* classics have been approved by the *Ayurvedic Pharmacopoeia Committee* in consultation with the Indian standard institution.

## CONCLUSION

In *Bhaishajya Kalpana Mana* was considered in the basic principles. Although there is a difference between *Mana Paribhasha* by *Acharyas*, the *Mana* remains the same. *Acharya Charaka*, *Sharangdhar* described the two types of *Mana*, *Acharya Amarkosha* mentioned three types of *mana* in their *Samhita*. According to *British Pharmacopoeia* 2 types of *mana* are described. Nowadays the *Magadha mana* men-

tioned by *Acharya Sharangdhar* and *Acharya Charaka* is being practised.

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