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Preparation of *Dhatryarishta* by *Dhatri Swarasa* and *Dhatri Kwatha*

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Abstract

Dhatryarishta has been described for the first time in *Charaka Samhita,* in the context of *Panduroga*. The same reference is available in *Chakradatta*, *Bhaishajya Ratnavali*, and *Sahastrayogam* too. Generally *Dhatri Swarasa* [*Amalaki* (*Emblica officinalis* Gaertn.)] is used in the preparation of *Dhatryarishta* as per classical reference, but fresh *Amalaki* is not available in every season, so in the present study, *Amalaki Kwatha* (decoction) is used instead of *Swarasa*. A total of 13 batches of *Dhatryarishta* were prepared, out of which nine batches were prepared with *Dhatri Swarasa* and four batches with *Dhatri Kwatha*. For *Dhatryarishta* prepared by using *Dhatri Swarasa,* three methods were applied and in *Dhatryarishta* prepared by using *Dhatri Kwatha* two methods were applied. The study revealed that *Dhatryarishta* could only be prepared by using *Amalaki Swarasa* as quoted in the classics and not by using *Amalaki Kwatha*.

Key words: *Dhatri, Dhatryarishta, Kwatha, Panduroga, Swarasa*

Introduction

Amalaki (*Emblica officinalis* Gaertn.) has been described in *Phalasava and Sarkara* as a separate *Asava yoni* by *Acharya Charaka*.[1] *Asava yoni* itself denotes the fermenting base for *Asava-Arishta*. *Dhatryarishta* is indicated in the context of *Panduroga* in *Charaka Samhita Chikitsasthan*.[2] The same reference is available in *Chakradatta*,[3] *Bhaishajya Ratnavali*,[4] and *Sahastrayogam*[5] in *Arishtaprakaran*.

Dhatri Swarasa (Juice), *Madhu* (Honey): one-eighth of *Swarasa*, *Krishna* (*Pippali*) half *Kudava*, (96 g), and *Sarkara* (Sugar) half *Tula*, (2.4 kg) are the four ingredients of *Dhatryarishta* as per classic method. As fresh *Amalaki* is not available in all the seasons, the present study is carried out to establish the preparation of *Dhatryarishta* by *Dhatri Swarasa* and *Kwatha*.

Aims and objectives

- To prepare the *Dhatryarishta* by using *Dhatri (Amalaki) Swarasa* and *Kwatha*.

Materials and Methods

In the present study two samples of *Dhatryarishta* were prepared by using *Dhatri (Amalaki) Swarasa* and *Kwatha*.

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Procurement and preparation of raw drugs

Fresh *Dhatri (Amalaki)* was collected from the local vegetable market and Dry *Dhatri* (*Amalaki*) was collected from the Pharmacy, Gujarat Ayurved University, Jamnagar, after proper authentication and was subjected to size reduction.

Pippali (*Piper longum* Linn.) was collected from the local market and was subjected for authentification. After proper authentication it was subjected to size reduction. Sweetening agents like *Sarkara* (sugar) and *Madhu* (Honey) from Dabur India Ltd. were purchased from the local market. R.O. water was used in the preparation of *Kwatha*.

Preparation of *Dhatryarishta* by *Amalaki Swarasa*

The ingredients of *Dhatryarishta* and their quantity are shown in Tables 1-3. In present study, first sample was prepared by three methods: First method: *Dhatryarishta* was prepared by *Swarasa* of *Amalaki* as per textual reference. Second method: *Dhatryarishta* was prepared by *Swarasa* of *Amalaki* in which *Sarkara* (Sugar) was added at one-tenth to the weight of *Amalaki*. Third method: *Dhatryarishta* was prepared by *Swarasa* of *Amalaki* in which *Sarkara* (Sugar) was added at one-tenth the weight of *Swarasa* obtained from *Amalaki*.

Procedure

Fresh *Amalaki* (*Emblica officinalis* Gaertn.) was selected from the market. Then it was washed with tap water and later cleaned with a dry cotton cloth. The cleaned *Amalaki* were cut into small pieces and the seeds were removed. Pieces of *Amalaki* were crushed with the mixer grinder and then squeezed through a cotton cloth. The results obtained are shown in Table 4.

Pippali (*Piper longum* Linn.) was dried in shade, and physical impurities were removed; fine powder was made using the mixer grinder and sieved through mesh number 85.

The fermenting vessels (china clay jar) were properly washed with sufficient quantity of warm water. After cleaning, the vessels were properly dried in sunlight to avoid any contamination. Dried vessels were subjected to *Dhoopana* (Fumigation) for 20 minutes with drugs of *Guggulu* (*Commiphora mukul Hook.)*, *Maricha* (*Piper nigrum* Linn.), *Vacha* (*Acorus calamus* Linn.), and *Jatamamsi* (*Nordostachys jatamansi* DC).

Madhu (Honey) was added (one-eighth portion) to *Amalaki Swarasa* (Juice) and specified quantity of Sugar (*Sarkara*) was added to the solution and with a stirrer. To this solution, specified quantity of *Prakshepadravya* was added and mixed well, till it become homogenous.

Proper initiation of fermentation was checked by regular examination on the first day. Following that examination was done at every five-day interval, after determination of fermentation, without disturbing the fermenting media. The china clay vessel was tightly sealed with a cloth smeared with mud (*Multani Mitti*). The vessels were placed in a clean, dry wooden chamber, so as to resist direct exposure to sunlight, air, and variation in the atmospheric temperature. Artificial regulation of the temperature was done with the help of an electric bulb (100 W) inside the chamber, during the winter season.

After completion of the fermentation process, the supernatant fluid was filtered through a double folded cotton cloth in to another jar. The marc that remained at the bottom of the vessel was discarded.

The yield material (*Arishta*) collected was allowed to mature for 30 days. After maturation, the *Arishta* was again filtered through a double folded cotton cloth for separating the suspended particles and getting the clear fluid (*Arishta*). The final product was then packed in plastic bottles and properly labeled, showing the full information about the formulation. The details of the first, second, and third methods of different batches are shown in Tables 5-7.

Table 1: Ingredients and ratio of *Dhatryarishta* prepared by *Amalaki Swarasa* (first method)

Ingredients	Text ratio	Text ratio	Ratio taken
Amalaki (In no.)	2000	2000	300
Madhu	one-eighth of *Swarasa*	one-eighth of *Swarasa*	one-eighth of *Swarasa*
Sarkara	Half tula	2.4 kg	360 g
Pippali	Half kudava	96 g	14.6 g

Observations

Before the onset of fermentation; after mixing *Madhu*, *Pippali*, and *Sarkara*, no change in color in *Swarasa* was seen. *Prakshepadravya* was floating over the surface of the liquid. Initially the *Prakshepadravya* had a tendency to aggregate over the surface of the fermenting media, which was wetted and mixed by stirring. After the onset of fermentation, it was started from the third day and continued up to the seventh day. *Prakshepadravya* was floating on the upper layer of the liquid. There was effervescence along with a hissing sound. On completion of the fermentation, *Prakshepadravya* was found to have settled. The smell of the final product appeared to be alcoholic. The color of the product changed to a darker brownish color. The detailed observations are shown in Tables 8-10.

Precaution

Before use, all the utensils were sterilized by washing with hot water and heating. *Amalaki swarasa* was filtered through a double folded cotton cloth. Proper sanitation was maintained during the pharmaceutical procedure. Proper space was left in the *Sandhana Patra* for the circulation of the liberated gas, that is, carbon-dioxide (CO_2) during the process of fermentation. The fermenting vessels were avoided from direct sunlight, air, and temperature variations during fermentation. Filtering was done by using a starch-free, clean, dry, cotton cloth. Proper labeling of the jars and bottles were done, which showed full information about the batch.

Table 2: Ingredients and ratio of *Dhatryarishta* prepared by *Amalaki Swarasa* (second method)

Ingredients	Text ratio	Text ratio	Ratio	Ratio taken
Amalaki (In no.)	2000	2000	2000 × 12 g = 24 kg	12 kg
Madhu	One-eighth of *Swarasa*	one-eighth of *Swarasa*	one-eighth of *Swarasa*	one-eighth of *Swarasa*
Sarkara	Half tula	2.4 kg	one-tenth of wt. of Amalaki	1.2 kg
Pippali	Half kudava	96 g	one-twenty-fifth of wt. of sugar	48 g

Table 3: Ingredients and ratio of *Dhatryarishta* prepared by *Amalaki Swarasa* (third method)

Ingredients	Text ratio	Text ratio	Ratio	Ratio taken
Amalaki (In no.)	2000	2000	2000 × 12 g = 24 kg	12 kg
Madhu	one-eighth of *Swarasa*	one-eighth of *Swarasa*	one-eighth of *Swarasa*	one-eighth of *Swarasa*
Sarkara	Half tula	2.4 kg	one-tenth of the wt. of *Amalaki Swarasa*	one-tenth of the wt. of *Amalaki Swarasa*
Pippali	Half kudava	96 g	one-twenty-fifth of the wt. of sugar	one-twenty-fifth of the wt. of sugar

Preparation of *Dhatryarishta* prepared by *Dhatri Kwatha*

Dhatryarishta was as per the reference of *Charak Samhita Chikitsa Sthana* 16/111-112. The ingredients and their quantities are shown in Tables 11 and 12. In the present study the second sample was prepared by two methods: First method: *Dhatryarishta* was prepared by the *Kwatha* of *Amalaki*, keeping the same ratio of *Dhatryarishta*, prepared by the *Swarasa* method. Second method: *Dhatryarishta* was prepared by the *Kwatha* of *Amalaki*, by following *Anuktamana* of *Sharangdhar Samhita*.[6]

Procedure

The *Kwatha* of *Amalaki* was prepared by two methods: First Batch: Prepared by dry *Amalaki* (*Amalaki:* water; 1:16 ratio) and Second Batch: Prepared by Dry *Amalaki* (*Amalaki:* water; 1:8 ratio).

Dried *Amalaki* was subjected to size reduction with the help of a pulverizer, up to 4 to 10 mesh size. The coarse powder drugs was mixed with the prescribed quantity of RO water, in a stainless steel vessel and subjected to overnight soaking (for 12 hours). Constant mild heat was applied to the vessel, which was sufficient to facilitate the evaporation on continuous stirring, up to the volume of the *Kwatha*, reduced to *Astamamsa*, *Chaturthamsa* in the first and second batches, respectively.

After a desirable reduction in volume, the *Kwatha* was strained with a double folded cotton cloth and collected in a separate vessel for further processing. The marc that remained above cloth was discarded. The practical details are shown in Table 13.

The remaining procedure was the same as in *Dhatryarishta* prepared by the *Swarasa* method. The practical details of *Dhatryarishta* prepared by *Dhatri Kwatha* are shown in Table 14.

Table 4: Quantity of *Amalaki* and *Swarasa* obtained after processing

	Wt. of *Amalaki*	330.4 g	330.4 g	330.6 g
First method	First batch	240 ml	240 ml	250 ml
	Second batch	250 ml	240 ml	240 ml
	Third batch	250 ml	250 ml	260 ml
	Fourth batch	250 ml	250 ml	260 ml
	Fifth batch	250 ml	250 ml	260 ml
Second method	First batch	220 ml	220 ml	220 ml
	Second batch	240 ml	250 ml	250 ml
Third method	First batch	220 ml	220 ml	220 ml
	Second batch	240 ml	250 ml	250 ml

Observations

Both the batches prepared by *Kwatha* method failed, as fungus was found to have developed on the wort.

Discussion

According to classical reference *Dhatri Swarasa (Amalaki)* is advocated in the preparation of *Dhatryarista*, but no reference is available on using the *Kwatha* as the medium during the processing of *Dhatryarishta*. The other importance of this formulation is that there is no fermenting media like *Dhataki* or *Madhukapushpa* is mentioned. The ratio taken for *Amalaki* is not by weight and is taken by counting the number of *Amalaki*. Sweetening agents, in the formulation are, *Madhu* and *Sarkara*. Generally *Asava-arishta* formulations have many drugs used, such as *Prakshepa*, but here only one *Prakshepadravya*, that is, *Pippali* is mentioned in the texts.

Dhatri (Amalaki) and *Sarkara* are mentioned as a separate *Asava yoni by Acharya Charaka* in *Charaka Samhita*. Fresh *Amalaki* is not available in every season, as a result, an alternative *Dhatri (Amalaki) Kwatha* is used instead of *Swarasa*; 240-250 ml of *Swarasa* was obtained from 330.4 g-330.6 g of *Amalaki*. The maximum yield of *Swarasa* was obtained in the month of March (*Falguna*), indicating full ripening of the *Amalaki*. This may be the reason that *Acharya Charaka*[7] has mentioned to enter *Amalaki Vanam* in the months of *Pousha*, *Magha*, and *Falguna*.

For preparing *Dhatryarishta* by classical reference, the first method, 300 *Amalaki* were used by counting and *Swarasa* was obtained from that. One-eighth honey and 360 g of *Sarkara* were added along with 14.6 g of *Pippali Churna* as *Prakshepa*

Table 5: Practical details of *Dhatryarishta* – first method (Classical reference)

	First batch	Second batch	Third batch	Fourth batch	Fifth batch
Month	December (*Margashirsa*)	January (*Pousha*)	January (*Pousha*)	February (*Magh*)	March (*Falguna*)
No. of *Amalaki*	300	300	300	300	300
Weight of *Amalaki*	7.160 kg	7.876 kg	8.06 kg	9.57 kg	11.42 kg
Swarasa obtained	4.020 L	4.550 L	5.040 L	6.200 L	7.690 L
Madhu	502 ml	570 ml	630 ml	775 ml	962 ml
Sarkara	360 gm	360 gm	360 gm	360 gm	360 gm
Pippali	14.6 gm	14.6 gm	14.6 gm	14.6 gm	14.6 gm
Wort	5000 ml	5580 ml	5840 ml	7200 ml	8800 ml
Temp.(°C)					
Room	22	22	22	24	28
Chamber	28-30	28-30	28-30	28-30	28-30
Final yield (L)	-	4.700	5.000 L	6.400 L	8.000 L
Total duration (days)	-	26	28	28	27

Table 6: Practical details of *Dhatryarishta* – second method

Dravya	First batch (W-10%)	Second batch (W-10%)
Month	October (*Ashwin*)	January (*Pousha*)
Weight of *Amalaki*	12 kg	12 kg
No. of *Amalaki*	611	396
Swarasa obtained	6.820 L	7.640 L
Sugar (*Sarkara*)	1200 gm	1200 gm
Honey (*Madhu*) one-eighth of *Swarasa* obtained	854 ml	955 ml
Pippali	48 gm	48 gm
Wort	8.300 L	9.300 L
Temp (°C)	28-30	24
Starting day of fermentation	Fifth day (after adding yeast)	Fermentation failed
Days required for completion	27 days	-
Maturation	1 month	-

Note: W-10%, that is, *Sarkara* (sugar) 10% of weight of *Amalaki* was added

Table 7: Practical details of *Dhatryarishta* — third method

Dravya	First batch (S-10%)	Second batch (S-10%)
Month	October (*Ashwin*)	January (*Pousha*)
Weight of *Amalaki*	12 kg	12 kg
No. of *Amalaki*	611	448
Swarasa obtained	6.760 L	7.800 L
Sugar (*Sarkara*)	676 gm	780 gm
Honey (*Madhu*) one-eighth of *Swarasa* obtained	845 ml	975 ml
Pippali	27.04 gm	31.2 gm
Wort	8.300 L	9.300 L
Temp (°C)	28-30	24
Starting day of fermentation	Fourth day (after adding yeast)	Fermentation failed
Days required for completion	26 days	-
Maturation	One month	-

Note: S-10%, that is, *Sarkara* (sugar), 10% of *Swarasa* of *Amalaki* was added

(one-twenty-fifth of *Sarkara*). A total of five batches were carried out. The first batch failed. This may be due the fresh Amalaki not being washed before processing, but the second to fifth batches were completely succesful.

In the preparation of *Dhatryarishta* by the second method, *Amalaki* was taken in 12 kg amount, *Sarkara* was added at 10% of the weight of Amalaki, that is, 1.2 kg, and honey was added one-eighth of the *Swarasa* obtained from *Amalaki*, and 48 g of *Pippali Churna* as *Prakshepa* was added (one-twenty-fifth of *Sarkara*). The first batch did not show any fermentation even after 20 days, so to initiate it yeast was added, whereas the second batch did not show any fermentation even after 40 days, so it was considered to have failed.

For preparing *Dhatryarishta* by the third method, *Amalaki* was taken in 12 kg amount, *sarkara* was added, 10% of the *Swarasa* obtained from *Amalaki*, and honey was added at one-eighth the amount of *Swarasa*, and *Pippali* was added (one-twenty-fifth part of *Sarkara*). The first batch did not show any fermentation even after 22 days, so to initiate it, yeast was added. The second batch did not show any fermentation even after 40 days so it was considered to have failed.

For preparing *Dhatryarishta* by *Amalaki kwatha* in the first method, dry *Amalaki* was taken, 3.250 kg weight, and *kwatha* was prepared by taking 1:16 and 1:8 ratio of *Amalaki* and water, reducing to one-eighth and one-fourth ratio, respectively. One-eighth honey was added to the *Kwatha* and 360 g of *Sarkara* was added along with 14.6 g of *Pippali* as *prakshepa*. Both the batches failed and fungus developed on the wort.

Dhatryarishta: Second method (by *Amalaki Kwatha*): Dry *Amalaki* was taken, 3.075 kg weight, and *Kwatha* was prepared in the ratio 1:16 and 1:8 of *Amalaki* and water, reducing to one-eighth and one-fourth the ratio, respectively. *Guda* was added in 2.4 kg ratio, 1.2 L of honey was added, and 240 g of *Pippali* as *prakshepa* was added. Both the batches failed and fungus was developed on the wort.

Vitamin C content up to 720 mg/100 g of fresh pulp and 921 mg/100 cc of pressed juice has been recorded. The dried fruit loses only 20% of its vitamin in 375 days when kept in a refrigerator, but loses 67% in the same period when stored at room temperature.[8] Along with decrease of Vitamin C, the percentage of Tannin increases, in comparison to the ratio of Vitamin C: Tannin in fresh fruit. Here the ratio of Vitamin C decreases as compared to fresh fruit. Therefore, to carry out fermentation of the desired quality, all the drug constituents have to be present at

Table 8: Observation during fermentation – *Dhatryarishta* first method

Observation		First batch	Second batch	Third batch	Fourth batch	Fifth batch
Effervescence	On	-	Third day	Fifth day	Seventh day	Seventh day
	Off	-	Twenty-fourth day	Twenty-fourth day	Twenty-fifth day	Twenty-fifth day
Bubbling sound	On	-	Fifth day	Seventh day	Eighth day	Eighth day
	Off	-	Twenty-sixth day	Twenty-eighth day	Twenty-eighth day	Twenty-seventh day
Hissing sound	On	-	Third day	Fifth day	Seventh day	Seventh day
	Off	-	Twenty-fourth day	Twenty-fifth day	Twenty-sixth day	Twenty-fifth day
Burning match test	Off(+ve)	-	Fifth day	Sixth day	Ninth day	Ninth day
	On(-ve)	-	Twenty-sixth day	Twenty-eighth day	Twenty-eighth day	Twenty-seventh day
Fermentation completion		Failed	Successful	Successful	Successful	Successful

Table 9: Details of observation during fermentation – *Dhatryarishta* second method

Observation		First batch	Second batch
Effervescence	On	Fifth day	-
	Off	Twenty-fifth day	-
Bubbling sound	On	Sixth day	-
	Off	Twenty-fifth day	-
Hissing sound	On	Fifth day	-
	Off	Twenty-sixth day	-
Burning match test	Off(+ve)	Sixth day	-
	On(-ve)	Twenty-seventh day	-
Fermentation completion		Successful	Failed

Table 10: Details of observation during fermentation – *Dhatryarishta* third method

Observation		First batch (S-10%)	Second batch (S-10%)
Effervescence	On	Fifth day	-
	Off	Twenty-fifth day	-
Bubbling sound	On	Sixth day	-
	Off	Twenty-fourth day	-
Hissing sound	On	Fifth day	-
	Off	Twenty-fourth day	-
Burning match test	Off(+ve)	Sixth day	-
	On(-ve)	Twenty-sixth day	-
Fermentation completion		Successful	Failed

Table 11: Ingredients and ratio of *Dhatryarishta* by *Kwatha* (first method)

Name	Quantity
Dhatri (*Kwatha*)	6.5 L
Honey (*Madhu*)	One-eighth of *Kwatha*
Pippali	14.6 g
Sugar (*Sarkara*)	360 g

Table 12: Ingredients and ratio of *Dhatryarishta* by *Kwatha* (second method)

Ingredients	Text ratio	Ratio taken in batch
Drava	12.300 L	6.150 L
Guda	4.8 kg	2.4 kg
Madhu	2.4 L	1.2 L
Prakshepa (Pippali)	480 gm	240 gm

Table 13: Practical details of *Amalaki Kwatha*

Batch	First method		Second method	
	First batch	Second batch	First batch	Second batch
Amt. of Dry *Amalaki* (coarse powder) kg	3.250	3.250	3.075	3.075
Quantity of water (L)	52	26	49.2	24.6
Reduced up to	One-eighth	One-fourth	One-eighth	One-fourth
Temperature (°C)				
Room temp.	30-32	30-32	30-32	30-32
Peak temp. maintained	90-92	90-92	90-92	90-92
Total yield (L)	6.5	6.5	6.150	6.150
Total duration (hours)	12.45	13.30	9	6

Table 14: Practical details of *Dhatryarishta* (by *Dhatri Kwatha*)

Batch	First method		Second method	
	First batch	Second batch	First batch	Second batch
Amalaki	3.250 kg	3.250 kg	3.075 kg	3.075 kg
Water	52 L	26 L	49.2 L	24.6 L
Kwatha	6.5 L	6.5 L	6.150 L	6.150 L
Temperature of *Kwatha* during addition of *Madhu* and *Sarkara* (°C)	38	38	38	38
Madhu (one-eighth of *Kwatha*)	820 ml	820 ml	1.2 L	1.2 L
Pippali	14.6 gm	14.6 gm	240 g m	240 gm
Sarkara	360 gm	360 gm	2.40 kg	2.40 kg
Wort	7.100 L	7.100 L	7.240 L	7.260 L
Result	Failed	Failed	Failed	Failed

the optimum level. Probably due to change in ratio of Vitamin C; Tannin, and other constituents in dry *Amalaki*, the *Dhatryarishta* prepared by *Kwatha* failed. Probably this may be the cause, and *Dhatryarishta* can only be prepared by *Amalaki Swarasa*.

Yeast most commonly found in honey is osmophilic yeast - Zygosaccharomyces, this clearly shows the source to carry out fermentation.

Conclusion

- The present study reveals that *Dhatryarishta* can be prepared by only *Amalaki Swarasa* as quoted in the classics and it cannot be prepared by *Amalaki Kwatha*.
- The maximum yield of *Swarasa* was obtained in the month of March (*Falguna*), indicating full ripening of *Amalaki*. This may be the reason that *Acharya Charaka* has mentioned to enter *Amalaki Vanam* in the months of *Pousha*, *Magha*, and *Falguna*.
- The maximum yield of *Dhatryarishta* was obtained in the

month of March (*Falguna*), which indicates that the yield of *Swarasa* and the months influence the study.

Equipment specifications for *Kwatha*

1.	Stainless steel vessel:	Size - Depth	9.5 inch
		Diameter	18 inches
		Circumference	56 inches
		Capacity	52 L
2.	Stainless steel ladle:	Size - length	21.5 inches
3.	Gas burner with L.P.G. cylinder (14.5 kg capacity)		
4.	Cotton cloth:	Size - 1 × 1 meter	

Equipment specifications for *Arishta* preparation

1.	Stainless steel vessel:	Size - Depth	6.0 inch
		Diameter	10 inches
		Circumference	31 inches
		Capacity	8.0 L
2.	Stainless steel ladle:	Size - length	13.5 × 2.75 inches
3.	Cotton cloth:	Size - 1 x 1 meter	
4.	Porcelain Jar	Size - Height	14.0 inches
		Circumference	30.5 inches
		Diameter of mouth	5.0 inches

References

1. *Charaka*'s *Charaka Samhita*. *Chakrapani*datta's Commentary. edited by VaidyaJadavaji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan; Reprint 2004. Su. 25/49, p. 134.
2. *Charaka*'s *Charaka Samhita*. *Chakrapani*datta's Commentary. edited by VaidyaJadavaji Trikamji Acharya.Varanasi: Chaukhambha Sanskrit Sansthan; Reprint 2004. Chi.16/111-3, p. 531.
3. *Chakrapani*datta's Chakradatta by Indradev Tripathi. Chaukhambha Sanskrit Sansthan.Varanasi: Panduroga Chikitsa Prakarana; Reprint 2005.8/49-51, p. 83.
4. Sri Govindas's Bhaishajya Ratnavali. edited by Kaviraj Sri Ambikadatta Shastri.Chaukhambha Sanskrit Sansthan. 1sixth edition.Varanasi: PandurogaChikitsaPrakarana; 2002. 12/120-1, p. 275.
5. Sahastrayogam by Dr. Ramnivas Sharma and Dr. Surendra Sharma.Chaukhambha Sanskrit Prathisthan.Delhi: Arishta Prakaran; Reprint 2007. p. 167.
6. Sharangdhar's Sharangdhar Samhita. Adhamalla and Kasiram's Commentary. edited by Pandit Parsuram Sastri, Vidyasagar. sixth edition. Chaukhambha Orientalia. Varanasi: Madyam Khanda; 2005. 10/3, p.233.
7. *Charaka*'s *Charaka Samhita*. *Chakrapani*datta's Commentary. edited by VaidyaJadavaji Trikamji Acharya. Varanasi: Chaukhambha Sanskrit Sansthan;Reprint 2004. Chi. 1/3/10, p. 384.
8. Wealth of India. Vol. 3. D-E Series; Reprint 2006. p. 168-9.

हिन्दी सारांश

धात्र्यारिष्ट का धात्री स्वरस एवं धात्री क्वाथ से निर्माण

सुभाषचंद्र एस. मडावी, बी. जे. पट्टगिरि, पी. के. प्रजापति

धात्र्यारिष्ट का सर्व प्रथम उल्लेख चरक संहिता में पाण्डुरोग चिकित्सा के संदर्भ में आया है, इसके अतिरिक्त चक्रदत्त (८/४९-५१), भैषज्यरत्नावली (१२/१२०-१२१) एवं सहस्त्रयोगम में अरिष्ट प्रकरण में प्राप्त होता है। शास्त्रों के अनुसार, धात्र्यारिष्ट के निर्माण में धात्री स्वरस का प्रयोग किया जाता है, किन्तु धात्रीफल वर्ष पर्यंत उपलब्ध नहीं होने के कारण अध्ययन में वैकल्पिक आधार पर शुष्क धात्रीफल से निर्मित क्वाथ का प्रयोग किया गया। धात्र्यारिष्ट के कुल १३ बेच का निर्माण किया गया। इसमें से ९ बेच का निर्माण स्वरस के द्वारा तथा ४ बेच का निर्माण क्वाथ के द्वारा किया गया। धात्र्यारिष्ट का स्वरस के द्वारा किए गए निर्माण में ३ विधियों का प्रयोग किया गया तथा क्वाथ द्वारा किए गए निर्माण में २ विधियों का प्रयोग किया गया। उपर्युक्त अध्ययन यह दर्शाता है कि धात्र्यारिष्ट का निर्माण केवल स्वरस के द्वारा संभव है।