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RESEARCH ARTICLE

PHARMACEUTICAL STUDY OF TRIPHALASAVA

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Abstract

Triphalasava is a classical Ayurvedic fermented formulation described in Charaka Samhita[1]. The present study focuses on the pharmaceutical preparation of Triphalasava following traditional Ayurvedic methods. The work includes the selection and authentication of raw materials, preparation of Triphala kwatha, processing of sweetening agents, preparation of the fermentation vessel, addition of sandhana dravya and prakshepa dravyas, monitoring of fermentation and post-fermentation procedures such as filtration and maturation. Three batches were prepared using the same method, and their pharmaceutical observations were recorded. Fermentation initiated naturally between the 10th and 13th days and was completed between the 45th and 48th days. Classical signs such as froth formation, hissing sound, alcohol-like smell, settling of prakshepa dravyas, and development of clarity were observed consistently.The study presents a complete pharmaceutical documentati on of Triphalasava prepared according to classical references.

Introduction:-

Bhaishajya Kalpana, the branch of Ayurveda concerned with medicine preparation, provides detailed principles for converting raw herbal materials into usable medicinal forms. Sandhana Kalpana is an important subdivision of this branch that includes naturally fermented preparations such as Asava and Arishta[2]. These formulations have a long shelf life and contain self-generated alcohol, which enhances solubility, preservation, and absorption of active ingredients[3]. Triphalasava is one such formulation described in Charaka Samhita[4]. It contains Triphala as the primary ingredient along with jaggery, madhu, Dhataki pushpa, and supportive herbs known as prakshepa dravyas[4]. Although the formulation is described in detail in classical literature, its pharmaceutical preparation requires a systematic and carefully monitored process.A pharmaceutical study helps understand the practical aspects of preparing classical fermented formulations. Triphalasava preparation involves the use of Triphala kwatha as the base liquid, sweetening agents as fermentation substrates, and Dhataki pushpa as a natural fermenter. The process of fermentation includes several stages that require careful observation, such as the onset of froth formation, changes in

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odour, clarity, and settling of particles. This study documents the pharmaceutical steps involved in the preparation of Triphalasava and records the observations noted during each stage.

Materials and Methods:-

Source of Raw Materials:

The procurement of raw materials from authentic sources, as per the SOP, was completed. The dry herbal raw materials were procured from Ambadas Aushadhalaya and Agasti Agroved Pune, Maharashtra. Guda(jaggery) was purchased from the local supermarket vendor in Goa. Madhu (Agmark) was procured from Phondaghat Pharmacy LLP. Mumbai, Maharashtra.

Authentication of raw materials:

The authentication of all procured raw materials was conducted at the Dravyaguna Department of GAMandRC, Shiroda, Goa.

Instruments and Devices:

Table 1: Illustrating the list of instruments and devices.

Stainless steel utensil with a lid of 25 liters capacity -2	Thermometer – 1
Cotton cloth, white colour – 15mtrs	Sterile containers -3 for storage
Big size spoon-3 Funnel-1, Sieve -1	Gas stove-1
LPG Cylinder 14.2kg – 1	Measuring jar-1 Stainless steel strainer
Mrudpatra with lid – 3 for sandhana of 12ltr capacity each	Dhupan yantra -1
Gas lighter-1 Matchstick-1	Weighing scale-1 Sterile gloves
Husk as per the required quantity	Multani mitti – 2kg for sealing

Table no. 2:Table of Ingredients of Triphalasava[5]

The pharmacy unit of the Rasashastra and Bhaishajya Kalpana department at Gomantak Ayurveda Mahavidyalaya, Shiroda, Goa, provided the necessary instruments, which include a hot air drier, mixer grinder, measuring jar, and pulveris

Sr.No.	Type of ingredient	Ingredients	Ratio	Quantity taken
1.	Drava-dravya	Triphala Kashaya	1Drona(12.288ltr)	Haritaki-5kg Bibhitaki-5kg Amalaki-5kg for 15 ltrs of Triphala kashaya
2.	Madhura Dravya	Madhu (Madhu)	½ Tula (2.4kg)	3kg
		Guda (Jaggery)	1 Tula (4.8kg)	6kg
3.	Sandhana Dravya	Dhataki Pushpa	½Prastha(384gms)	500gms
4.	Prakshepa Dravya	Chitrak, Danti, Kramuk, Bilva, Agnimantha, Shyonaka, Gambhari, Patala, Bruhati, Shalparni, Prishnaparni, Kantakari Gokshur, Varang.	$1/10^{th}$ of Guda (480gms)	45gms each dravya (total 630gms)

Place of manufacturing:
The processing for formulation was carried out in the main hall of the pharmacy unit, while all the 3 batches were kept for fermentation in the attached small room to the main hall of the pharmacy unit of the Rasashastra and Bhaishajya kalpana department of Gomantak Ayurveda Mahavidyalaya, Shiroda, Goa, for undisturbed and remote condition so that the hygienic condition with uniformity of temperature can be maintained.

Temperature:
The temperature of the area ranged between 25°C and 35°C. All samples of Triphalasava were prepared under these favourable temperature conditions.

Time duration:
The fermentation was planned to achieve the signs of completion within 60 days.

The pharmaceutical process was divided into three stages:
- Purvakarma
- Pradhana karma
- Paschat karma

Purvakarma involved the preparation of the sandhana patra and raw materials. The earthen vessels used for fermentation were washed thoroughly, filled with water, soaked for several days, dried in sunlight, smeared internally with ghee and fumigated using Sarjaras, Vidanga, Agaru, Jatamansi and Vacha powders[6]. Triphala ingredients were cleaned, shade-dried, and coarsely powdered. Prakshepa dravyas were cleaned, powdered finely, and sieved through a 120-mesh sieve.
Pradhana karma began with the preparation of Triphala kwatha. The coarse powders of Haritaki, Bibhitaki and Amalaki were boiled in water and reduced to the desired quantity[7]. The decoction was filtered through cloth and allowed to cool. Guda (jaggery)was mixed thoroughly in the cooled kwatha until it dissolved completely, followed by the addition of madhu. This sweetened decoction was transferred into the prepared sandhana patra and Dhataki pushpa was added as the natural fermenting agent. The vessel was covered with clean cotton cloth to allow controlled aeration. It was then kept in a warm, undisturbed corner to promote fermentation. Observations (Sandhana Pariksha)

The Sandhana Pariksha (fermentation observations) are carried out in three phases:
Initial Stage Observations:[8]
1.The Prakshepa Dravyas are seen floating on the surface.
2.The liquid is thicker and more viscous than water.
3.The temperature of the fermenting media becomes equal to the surrounding environment.

Parameters /Tests to confirm initiation of fermentation:[9]
1.The Prakshepa Dravyas continue to float.
2.Colour changes in the media are noticeable.
3.A mild alcoholic smell becomes apparent.
4.Visible effervescence (bubbling) occurs.
5.A faint hissing sound may be heard from the vessel.
6.A lit matchstick or candle gets extinguished if placed inside the vessel.
7.The temperature of the media increases slightly, by 4–6°C.

Lime Water Test: A rubber tube is connected from the vessel to a test tube with lime water. Bubbles appear, and lime water turns milky,
$Ca(OH)_2 + CO_2 \rightarrow CaCO_3 + H_2O$

Post-Fermentation Observations:[10]
1.The Prakshepa Dravyas sink to the bottom.
2.A strong alcoholic odour develops.
3.No hissing sound or effervescence is noticed.
4.The temperature returns to normal.
5.A lit matchstick continues to burn inside the vessel.

6.Lime water test shows no further change.
7.Completion can also be confirmed through organoleptic tests and standard quality tests.

Fermentation was observed regularly. Early signs included froth formation, hissing sound, and floating particles, after which prakshepa dravyas were added. Once added, the vessel was sealed with a mud-smeared cloth and left undisturbed for the remaining fermentation period.
Paschat karma was carried out after fermentation was considered complete, based on classical signs. These included the settling of prakshepa dravyas, cessation of froth and sound, development of alcoholic smell, and clarity of the liquid. The seal was opened, and the fermented liquid was filtered gradually through a clean cloth. The filtrate was kept aside for 10 days for maturation, allowing fine particles to settle. The clear portion was then decanted carefully, filtered once more, and stored in clean containers.Three batches named TRSV-1, TRSV-2 and TRSV-3 were prepared using the same procedure to document consistency in pharmaceutical behaviour.

Result:-

Table 3: Showing the details of observations during fermentation in Sample TRSV-1,TRSV-2,TRSV-3.

Batch	Triphalasava-1 (TRSV-1)	Triphalasava-2 (TRSV-2)	Triphalasava-3 (TRSV-3)
Formulation Starting Date	1/12/24	10/12/24	20/12/24
Time Taken for Triphala Kwath Preparation	7hrs20mins	7hrs40mins	7hrs15mins
Quantity of Kwath Obtained	5.2ltrs	5.4ltrs	5.5ltrs
Date of Placing Sandhana	3/12/24	12/12/24	22/12/24
Fermentation initiation after placing sandhana	13^{th} day (13/12/24)	11^{th} day (20/12/24)	10^{th} day (29/12/24)
Burning Candle Test	✓	✓	✓
Lime Water Test	✓	✓	✓
Hissing Sound	✓	✓	✓
Effervescence	✓	✓	✓
Sandhibandhan Done On	(18/12/24)	(25/12/24)	(8/1/25)
Date of Completion	17/1/25(48days)	23/1/25(45days)	3/2/25(46days)
Asava Peculiar Odour	✓	✓	✓
Total Quantity of Triphalasava	4.25ltrs	4.5ltrs	4.3ltrs

All three batches showed comparable pharmaceutical characteristics throughout the process. Before fermentation, the mixture had a brown colour with a strong Triphala odour and a bitter-astringent taste. Fermentation began naturally in each batch, with observable signs. In TRSV-1, fermentation started on the 13th day; in TRSV-2, on the 11th day; and in TRSV-3, on the 10th day. Froth formation, bubbling and a mild alcoholic smell were present during the initial phase. Prakshepa dravyas floated initially due to gases released during fermentation and later settled to the bottom.As days passed, the liquid became gradually clearer and darker in colour. The alcoholic smell became more prominent, indicating the progress of fermentation. Completion of fermentation occurred when bubbling stopped, the hissing sound disappeared, and prakshepa dravyas fully settled. Fermentation was completed by the 48th day in TRSV-1, by the 45th day in TRSV-2 and by the 46th day in TRSV-3. After filtration and maturation, the final liquid obtained from each batch ranged from 4.25 to 4.5 litres. All batches showed similar colour, clarity, odour and consistency, indicating uniform pharmaceutical behaviour.

Discussion:-

The pharmaceutical preparation of Triphalasava requires careful attention at every stage. Triphala kwatha acts as the base and provides the primary therapeutic properties.Guda(jaggery)and madhu serve as the substrates for natural fermentation. Dhataki pushpa facilitates the onset of fermentation due to its natural yeast content. Each step, from boiling the kwatha to dissolving the guda (jaggery)and madhu, plays an important role in ensuring the proper progression of fermentation.The onset of fermentation between the 10th and 13th days aligns with the classical behaviour of Asava and Arishta preparations. The gradual appearance of froth, effervescence, and the characteristic sound are expected signs. As fermentation proceeds, the floating herbs settle due to a reduction in effervescence and clarity increases as suspended particles settle. The time taken for completion of fermentation in all three batches was 45 to 48 days, which corresponds well with traditional descriptions.The similarity in observations across the three batches shows that the classical method followed in this study is reliable and adaptable for practical pharmaceutical preparation. The use of earthen pots, fumigation, controlled aeration, and careful addition of ingredients ensures a stable fermentation environment. The final appearance and consistency of all batches confirm successful preparation following classical principles.

Conclusion:-

The pharmaceutical study successfully documented the traditional preparation method of Triphalasava. The procedures involved raw material processing, preparation of Triphala kwatha, addition of sweetening agents, fermentation using Dhataki pushpa, sealing of the vessel, observation of classical fermentation signs, and post-fermentation handling. All three batches exhibited similar pharmaceutical characteristics, showing that the classical procedure can be followed effectively for consistent preparation. The study provides a clear and complete pharmaceutical description of Triphalasava based on classical Ayurvedic texts.

Importance of Sandhana Kalpana:-

Sandhana Kalpana holds a unique position in Ayurvedic pharmaceutics as it enables natural biotransformation of dravya through controlled fermentation. The formation of self-generated alcohol enhances the extraction of both water-soluble and alcohol-soluble constituents, thereby increasing the therapeutic potential of the formulation. Sandhana also improves palatability, stability, and shelf life of the preparation. In formulations like Triphalasava, sandhana allows synergistic interaction between Triphala and prakshepa dravya, making the formulation pharmaceutically efficient and therapeutically potent.

Scope for Further Study:-

- Clinical Studies: Well-designed trials to relate analytical markers (phenolics, flavonoids, ethanol) with therapeutic outcomes, especially in all types of Kustha, Rasayana effect, in Vata-Vyadhi and in Prameha.
- In-Vitro Studies: Cell or enzyme assays to screen antioxidant, digestive, metabolic and immunomodulatory effects linked to classical claims.
- In-Vivo Studies: Animal models to study pharmacokinetics, bioavailability, safety and efficacy before clinical translation.
- Advanced Profiling: Metabolomics (LC–MS/MS, NMR) and next-generation sequencing to identify unknown compounds and microbial consortia in fermentation.
- Process Comparison: Compare traditional vs. industrial batches, different vessels, seasons and Sandhaniya Dravyas to refine and standardise production.

Summary:-

This article presents a comprehensive pharmaceutical study of Triphalasava prepared according to classical Ayurvedic principles. The preparation involved systematic execution of Purvakarma, Pradhana karma, and Paschat karma, with careful observation of sandhana lakshanas. Three batches were prepared using the same method to document consistency in pharmaceutical behaviour. The sandhana process progressed smoothly in all batches, with fermentation initiating between the 10th and 13th days and completing between the 45th and 48th days. Uniformity in colour, clarity, gandha, and settling of prakshepa dravya was observed. The study provides a clear pharmaceutical documentation of Triphalasava preparation based on Ayurvedic texts.

References:-

1. Acharya Agnivesh, Charak Samhita, Ayurveda-Dipika by Chakrapanidatta, Chaukhamba publications, Chikitsasthana, Chapter 7th, Shloka 81, pg. no. 454.
2. Acharya Sharangdhar, Sharangdhar Samhita, Chaukhamba Surbharti Prakashan Madhyam Khand, Chapter 10th, Shloka 1, pg no.250.
3. Vagbhata. Ashtanga Hridaya with Sarvangasundara commentary of Arunadatta and Ayurveda Rasayana commentary of Hemadri. Edited by Pt. Hari Sadashiva Shastri Paradakara. Reprinted. Varanasi: Chaukhambha Surbharati Prakashan; 2019. Kalpa Sthana.
4. Acharya Agnivesh, Charak Samhita, Ayurveda-Dipika by Chakrapanidatta, Chaukhamba Publications, Chikitsasthana, Chapter 7, Shloka 81, p. no. 454.
5. Acharya Sharangdhar, Sharangdhar Samhita, Chaukhamba Orientalia, Madhyam Khand, Chapter 10th, Shlok 3, page no.137.
6. Textbook of Bhaishajya Kalpana Vigyan - Ravindra Angadi, Chaukhamba Surbharti Prakashan, Varanasi, chapter 30,p.294.
7. Sharangadhara Samhita ofSharangadhara Acharya Containing Anjananidana Of Agnivesa With Dipika Hindi Commentary By Dr. Brahmanand Tripathi, Book Series 28, Chaukhamba Surabharati Prakashan, Varanasi, Madhyamakhanda, chapter 9/4.pg no 144.
8. Textbook of Bhaishajya Kalpana Vigyan - Ravindra Angadi, Chaukhamba Surbharti Prakashan, Varanasi, chapter 30,p.291.
9. Textbook of Bhaishajya Kalpana Vigyan - Ravindra Angadi, Chaukhamba Surbharti Prakashan, Varanasi, chapter 30,p.291.
10. Textbook of Bhaishajya Kalpana Vigyan - Ravindra Angadi, Chaukhamba Surbharti Prakashan, Varanasi, chapter 30,p.291.