REVIEW ARTICLE

Different Dosage Forms Of Kwatha Kalpana: A Boon To Ayurveda Pharmaceutics

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ABSTRACT

Background: The core concept of all the Ayurvedic dosage forms is laid upon *Panchavidha kashaya kalpana* (Five Basic Preparations) which are-1. *Swarasa* (Expressed juice), 2. *Kalka* (Paste), 3. K*watha* (Decoction), *Hima* (Cold infusion), *Phanta* (Hot infusion) respectively. Though *Kwatha kalpana* is one of the most described preparation for clinical practice and for secondary preparations as well, it is being used limitedly due the issues like Short shelf life, time required for preparation, unpalatability, transportation and storage etc. The *Kwatha* can be modified into different dosage forms like Arista, Tab/Capsule, *Ghanavati*, *Pravahi kwath* etc. keeping its therapeutic utility undisturbed much. Hence, the present attempt is made to introduce the different possible dosage forms of *Kwatha kalpana*.

Materials and Methods: A descriptive and analytical review of Classical Ayurveda literatures like *Charaka Samhita*, *Sharangadhara Samhita*, and *Yogaratnakara*, Contemporary pharmaceutics texts and relevant scientific publications done.

Results and Discussion: Study revealed that the Classical *Kwatha* with minimal self-life can be modified into other long-lasting formulations like *Ghanavati*, Granules, Tab/Capsules, Syrup, *Arishta* and *Pravahi Kwatha* etc. without compromising its efficacy much. Major techniques involved for the conversion are drying, granulation, sweetening, and fermentation etc.

Conclusion: Different dosage forms of *Kwatha kalpana* helps overcome the shortcomings of *Kwatha* like stability, standardization and patient compliance. Aligning the classical wisdom and contemporary techniques, we can build trust and serve ailing humanity in a better way.

Keywords: Dosage forms, Shelf life, *Kashaya kalpana, Kwatha, Ghanavati, Arishta*

INTRODUCTION

Prevention of disease and promotion of health is the main aim of *Ayurveda*.[1] Various tools are described for achieving this aim of which drug is of utmost importance. Drugs are used either as a single medicine or as a combination depending upon the *balabala* of the patient and disease. For this they are converted into different dosage forms. A wide range of pharmaceutical description is available in the classical texts of *Ayurveda*, the basic of which is laid upon five fundamental processing techniques known as *Panchavidha kashaya kalpana*. It includes- *Swarasa kalpana* (fresh juice), *Kalka kalpana* (herbal paste), *Kwatha kalpana* (herbal decoction), *Hima kalpana* (cold infusion) and *Phanta kalpana* (hot infusion).[2] Among this *Kwatha* is one of the most used *Kalpana* (formulation) in clinical practice and in many secondary preparations as well. Despite having high therapeutic efficacy some disadvantages such as lesser self-life, unpalatability, and inconvenience in preparation, difficulty to prescribe accurate dose, transportation and storage issue reduce the compliance and may interfere with the treatment. To overcome the shortcomings and meet the increasing demands there is a need to modify the *Kwatha* in different dosage forms.

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WHAT IS *KWATHA?*

It is the preparation where the dry drugs are boiled on *Mridvagni* (mild fire) in different proportions of water (4, 8 and16) depending upon the hardness and quantity of the drugs taken and reduced to 1/4th.[3,4] Remaining liquid is filtered and used as *Kwatha*. *Sharandhara* explains different *Prakshepa dravyas* (adjuvents) considering the disease and their *Dosha* dominance for *Kwatha.* For example, Sugar is added to the decoction in dose of 1/4th, 1/8th and 1/16th part respectively for *vata, pitta* and *kapha* disorders. Honey is used in reverse order.[5] A *Kwatha* must be used in lukewarm state or after it gets cooled on its own depending on its utility.[6,7] Its normal dose is 2 *Pala* (96 ml).

DOSAGE FORMS

Dosage form is defined as a pharmaceutical preparation designed for administration of a drug into the body through a suitable route.[8] *Kwatha* can be preserved for longer duration by modifying it into different dosage forms like *Ghanavati,* Granules, power, tablet/ capsules, *Pravahi kwatha* etc.

SELECTION OF DOSAGE FORMS

The dosage form selection depends on several factors including *Yukti* (judgmental knowledge of physician). While formulating a modified dosage form most care must be given to -

- Therapeutic effectiveness
- Physicochemical stability
- Ability to deliver correct dose at correct site and desired time.
- Acceptability to the patient.
- Palatability and increased shelf life
- Reasonable cost etc. [9]

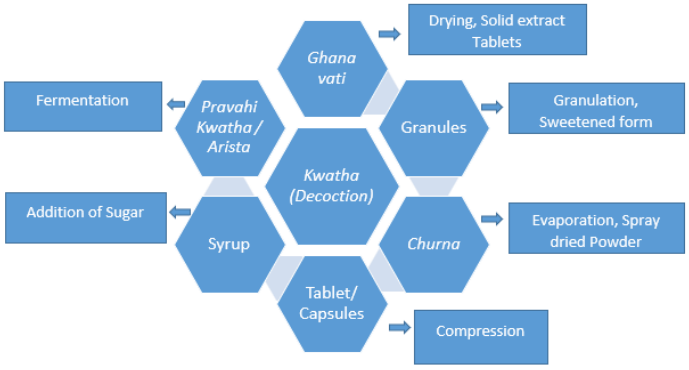

Fig 1: Modification of *Kwatha Kalpana* into different dosage forms such as *Ghanavati, Churna*, Granules, Tablets/Capsules, Syrup, and *Pravahi Kwatha/Arishta*.

MATERIALS AND METHODS

A descriptive and analytical review of Classical Ayurveda literatures, Contemporary pharmaceutics texts and relevant scientific publications done. It involved the following steps:

1. Literature Review: Classical Ayurveda literatures like *Charaka Samhita*, *Sharangadhara Samhita* and *Yogaratnakara* were reviewed to know the basic concept and procedures of *Kwatha Kalpana*. Contemporary pharmaceutics textbooks and relevant peer-reviewed research articles were also reviewed to find recent advancements and modifications of *Kwatha*. Details of classical procedures and techniques of modifications were compiled.

2. Comparative Analysis: Evaluation of different modified dosage form was done based on preparation method, stability, shelf life, palatability, transportation and patient compliance. Analyses of Pharmaceutical processes like heating, drying, fermentation, sweetening, granulation, and packaging done for their role in better stability, clinical use and acceptability to the patient.

3. Documentation: Data regarding the advantages of modified dosage forms over classical *Kwatha* were synthesized to highlight and to assess their feasibility in modern Ayurvedic pharmaceutics.

RESULTS AND DISCUSSION

Detailed and thorough review of primary and secondary sources revealed different modified dosage forms of *Kwatha kalpana* with added benefits over limitations of classical *Kwatha.* Classical *Kwatha* has shelf - life of three hours approximately but the modified forms like *Ghanavati*, granules, *Churna* , Syrup, *Arishta* etc. can be used from several months to years.[10,11] Solid dosage forms, including *Ghanavati*, granules, tablets, and capsules ensure accurate dosing, transport friendly and better patient compliance, while liquid preparations like *Pravahi kwatha* and syrup improve palatability and acceptability, particularly among children and old age populations.[12] Newer innovations in pharmaceutical technique like spray –drying, vacuum evaporation and granulation have been included with not much deviation in therapeutic efficacy.[13] Fermentation process, sweetening agents are known to enhance taste and also acts as natural preservatives.[13] Despite these modifications, the therapeutic potential of *Kwatha* was largely preserved, ensuring its continued relevance in clinical practice.[12] Limitations of *Kwatha* such as unpalatability, preparation difficulties, and storage issues are masked by these modified forms and intern provides enhanced portability, standardization, and potential for global acceptance.[12,13] Overall, the study highlights that the modified forms of *Kwatha kalpana* offer a well-balanced blend of traditional therapeutic value and modern practicality, ensuring better stability, user convenience, and treatment adherence through scientifically refined preparation methods.

Table 1: Comparative overview of different dosage forms of *Kwatha kalpana*

Dosage Form	Method of Preparation[4,15-20]	Shelf Life[10,21]	Advantages[22-27]	Limitations[22-27]
***Kwatha* (Decoction)**	Drugs boiled in 4–16 parts water, reduced to ¼, filtered	~3 hours	High therapeutic efficacy, fast absorption	Short shelf life, poor palatability, preparation needed daily
***Ghanavati* (Solid Extract Tablets)**	Boiling the prepared *Kwatha* further to attain semisolid state, rolled into particular size *vati* and dried.	3 years	Accurate dose, portable, longer shelf life	May lose some volatile components during heating
Granules	Reduction of freshly prepared *Kwatha* to semisolid stage, mixed with sugar, flavoring and granulating agent to prepare a coherent mass which is passed through a sieve to convert it into granules and dried at temperature not exceeding 60^{0}c.	3 years	Easy to prepare solution, improved taste	Sugar unsuitable for diabetics
***Churna* (Powder from *Kwatha*)**	The liquid portion of *Kwatha* is evaporated (using heat and vacuum) to form a semisolid paste, then poured into spray drier along with a powder carrier (usually starch or dried, powdered, herb dregs) and the remaining water is evaporated, leaving a dry powder. Addition of a carrier prevents powder to turn into gummy solid or even hard mass when exposed to moisture.	2 years	Light, easy to store, longer shelf life	Requires careful storage (hygroscopic)
Tablet / Capsule	The dried *Kwatha* is firstly prepared into power, then granules and then into tablet and capsules.	3 years	Standardized dose, portable, patient-friendly	Costlier, needs excipients
Syrup	*Kwatha* is prepared by adding 8 times of water in drug and reduced to 1/4th. The filtrate was cooled, sugar in the concentration 66.7% is added and mixture is boiled up to 1-2 thread consistency.	3 years	Palatable, good for pediatrics and geriatrics	High sugar load, bulky for transport
Pravahi Kwatha / Arishta	Prepared by adding sweetening and fermenting agent. No classical references for *Pravahi kwatha* (mentioned in *Ayurveda sara sangraha*).Self-generated alcohol acts as natural preservative.	3/10 years	Alcohol preserves, improves digestion & shelf life	Not suitable for children, alcohol-sensitive patients

DISCUSSION

Liquid dosage form can't be preserved for longer duration as it favors the growth of micro-organism. The maximum shelf life of basic formulations obtained from natural resources like *Swarasa, Kalka ,Kwatha* is 3hrs.[10] However *Kwatha* stands next to *Swarasa* and *Kalka*, it is one of the most used dosage form among all primary pharmaceutical preparation of Ayurveda pharmaceutics with wide range of therapeutic uses. Limited shelf life of *Kwatha* with unlimited potency has forced us to think of possible modification. Moreover, administration of drug in various dosage forms provides a prospect to the physician to prefer better and consumer friendly option. The major processes involved in the modification of *Kwatha kalpana* includes drying of the raw drugs, heating of the formulation and thereby making it into thicker consistency, addition of sweetening agents, fermentation, packing and containers used in storage or preservations. By heating the moisture content if any present in the formulation is removed and thereby preventing susceptibility to microbial attack. The addition of sweetening agents serves the dual functions of improving the palatability as well as to enhance the shelf life. Fermentation process leads to the generation of alcohol, which further arrest the action of micro-organisms. The different types of packing and storage materials employed now a day ensures that no cross contamination happen once the final product is formed.

Table 2: Comparative analysis of traditional and modified dosage forms of *Kwatha kalpana*

Aspect	Traditional *Kwatha*	Modified *Kwatha* Forms
Shelf life	Very short (≈ 3–6 hours after preparation)	Extended from months to years depending on the form (e.g., *Ghanavati*, syrup, *Arishta*)
Palatability	Often bitter, unpleasant taste	Improved with sugar, flavoring agents, or encapsulation
Dose accuracy	Variation due to preparation and storage conditions	Standardized dosage in tablets, capsules, granules, etc.
Convenience of use	Requires daily preparation and immediate consumption	Ready-to-use formulations, easy for patients to administer
Portability	Difficult to store or carry	Solid forms (tablets, capsules, granules) are portable and user-friendly
Preservation	Rapid spoilage without preservatives	Syrups (sugar), *Arishta* (self-fermentation alcohol), and solid dosage forms ensure stability
Acceptability	Low compliance, especially in children and working individuals	Higher compliance due to improved taste, reduced bitterness, and convenient administration

CONCLUSION

Ayurvedic Kwatha kalpana have a vast need to overcome the lacuna present by modifying it into different dosage forms like *arista*, granules, tab/cap, *Pravahi kwatha* etc. to meet the increasing demand and global acceptance. In this study we find the various trends and ways to change the state of *Kwatha kalpana to* get the ease of administration, portability, transportation and patient compliance. As per the insistent requirement of present era, by changing the dosage forms of *Kwatha kalpana* keeping its therapeutic utility undisturbed much we can serve the ailing humanity in a better way. So, it can be concluded that the modified dosage forms of *Kwatha kalpana* can be a boon for Ayurveda pharmaceutics.

REFERENCE

1. Yadavji T., editor. Charaka Samhita of Agnivesha, Sutrasthana, Chapter 30, Verse 26. Reprint ed. Varanasi: Chaukhambha Orientalia; 2015. p.187.
2. Sharangadhara. Sharangadhara Samhita, Madhyamakhanda, Chapter 1, Verse 1. In: Shastri P, Vidyasagar, editor. With commentaries of Adhamalla Deepika and Kashiram Gudhartha Deepika. Reprint ed. Varanasi: Chaukhambha Orientalia; 2018. p.137.
3. Sharangadhara. Sharangadhara Samhita, Madhyamakhanda, Chapter 2, Verse 1. In: Shastri P, Vidyasagar, editor. With commentaries of Adhamalla Deepika and Kashiram Gudhartha Deepika. Reprint ed. Varanasi: Chaukhambha Orientalia; 2018. p.144.
4. Sharangadhara. Sharangadhara Samhita, Madhyamakhanda, Chapter 9, Verses 3-5. In: Shastri P, Vidyasagar, editor. With commentaries of Adhamalla Deepika and Kashiram Gudhartha Deepika. Reprint ed. Varanasi: Chaukhambha Orientalia; 2018. p.212.
5. Sharangadhara. Sharangadhara Samhita, Madhyamakhanda, Chapter 2, Verse 4. In: Shastri P, Vidyasagar, editor. With commentaries of Adhamalla Deepika and Kashiram Gudhartha Deepika. Reprint ed. Varanasi: Chaukhambha Orientalia; 2018. p.144.
6. Sharangadhara. Sharangadhara Samhita, Madhyamakhanda, Chapter 2, Verse 1. In: Shastri P, Vidyasagar, editor. With commentaries of Adhamalla Deepika and Kashiram Gudhartha Deepika. Reprint ed. Varanasi: Chaukhambha Orientalia; 2018. p.144.
7. Yadavji T., editor. Charaka Samhita of Agnivesha, Chikitsasthana, Ch. 3, Ver. 239. Reprint ed. Varanasi: Chaukhambha Orientalia; 2015. p.420.
8. Tripathi DK. Introduction to Pharmaceutics: Theory and Practice. 1st ed. New Delhi: Jaypee Brothers Medical Publishers; 2012. p.12.
9. Tripathi DK. Introduction to Pharmaceutics: Theory and Practice. 1st ed. New Delhi: Jaypee Brothers Medical Publishers; 2012. p.13.
10. Yogaratnakara. Yogaratnakara, Purvardha, Jwara Chikitsadhikara, Verse 4. In: Shastri B, editor. 1st ed. Varanasi: Chaukhambha Prakashana; 2015. p.203.
11. Government of India, Ministry of AYUSH. The Ayurvedic Pharmacopoeia of India. Part I, Vol. 1. New Delhi: Govt. of India; 2001.
12. Bhalerao S, Bolshete P, Swar B, Pradhan V, Ghorpade D, Panchal F. Use of modified dosage forms in Ayurveda: Ghanavati, syrups and capsules. J Ayurveda Integr Med. 2013;4(1):25-31.
13. Dhiman KS, Chawla V, Sharma R. Standardization and shelf-life study of Kwatha and its modified dosage forms. AYU. 2011;32(4):466-71. DOI: 10.4103/0974-8520.82044 PMID: 22048541 PMCID: PMC3202256
14. Patwardhan B, Vaidya ADB, Chorghade M. Ayurveda and natural products drug discovery. Curr Sci. 2004;86(6):789-99.
15. Trikamji Y. Siddha Yoga Sangraha, Vol. 1-6, Jwaradhikara. 13th ed. Nagpur: Baidyanath Ayurveda Bhavan Ltd.; 2008. p.4.
16. Mehta RM. Pharmaceutics (I). 4th ed. Delhi: Vallabh Prakashan; 2010. p.6-7.
17. Meena V, Bhushan S, Chaudhary AK. Kwatha Kalpana: its versatility with probable advancement. Asian J Pharm. 2017;11(3): S389-92.
18. Gennaro A. Remington: The Science and Practice of Pharmacy. 21st ed. Philadelphia: Lippincott Williams & Wilkins; 2005.
19. Kalsaria BD, Patgiri BJ, Prajapati PK. Standard manufacturing procedure for surup and tablet forms of Jwarahara Dashemani. Int Q J Res Ayurveda. 2010; 31:255-9. DOI: 10.4103/0974-8520.72411 PMID: 22131721 PMCID: PMC3215375
20. Anonymous. Ayurveda Sara Sangraha. 12th ed. Allahabad: Baidyanath Ayurveda Bhavan Ltd.; 2014. p.718-9.
21. Ministry of AYUSH, Government of India. G.S.R. 789(E). Notification revising shelf life of Ayurveda, Siddha & Unani (ASU) drugs. Gazette of India. 2016 Aug 12.
22. Bhatt N, Deshpande M, Chaskar S. A critical review of standardization of Ayurvedic dosage form Kwatha - Part II: Approaches and outcome. Int J Ayurvedic Med. 2020;11(3):378-86. DOI: 10.47552/ijam.v11i3.1552
23. Baragi UC, Baragi PC, Vyas MK, Shukla VJ. Standardization and quality control parameters of Dashanga Kwatha

Ghana tablet. Int J Ayurveda Res. 2011;2(1):42-7. DOI: 10.4103/0974-7788.83190
PMID: 21897642 PMCID: PMC3157108

24. Patil AD, et al. Comparative pharmaceutico-analytical study of Kushthaghna Mahakashaya and its Ghanavati form. J Ayurveda Integr Med Sci. 2017;2(4):81-6. DOI: 10.21760/jaims.v2i4.9331

25. Singh PK, Shah MK, Singh B. A literary review on Churna - Ayurveda dosage form. J Ayurveda Campus. 2021;2(1):103-9. DOI: 10.51648/jac.31

26. Das C, Ghosh G, Das D. Ayurvedic liquid dosage form Asava and Arista: An overview. Indian J Pharm Educ Res. 2017;51(2):169-76. DOI: 10.5530/ijper.51.2.22

27. Maithani M, Grover H, Raturi R, Gupta V, Bansal P. Ethanol content in traditionally fermented Ayurvedic formulations: Compromised good manufacturing practice regulations - compromised health. Am J Drug Alcohol Abuse. 2018;45(2):208-16. DOI: 10.1080/00952990.2018.1529181
PMID: 30427752