

PANCHAVIDHA KASHAYA KALPANA-THE FOUNDATION OF DRUG DEVELOPMENT IN AYURVEDA

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Abstract: Therapeutic formulations in Ayurveda pharmacy are manufactured to meet the multi-dimensional demands of society including age of subjects, dosage, mode of administration, palatability, storage, shelf life, therapeutic efficacy, stage of diseases and many more criterias. The demand of public domain in modified forms of drugs in varied presentation for ease of transportation, swift action, dosage and other therapeutic benefits has necessitated the changes in the basic form of drugs in Ayurveda health care systems too. Panchavidha Kashaya Kalpana the basic drug delivery system in Ayurveda which has a holistic approach also requires a modification to meet the present trends of pharma industry. Kalpa Sthana of Charaka Samhita meets this demand for modified dosage form.

Key Words: Ayurveda, Dosage form, Panchavidha Kashaya Kalpana, Pharma Industry, KalpaSthana.

1. INTRODUCTION:

Alteration in lifestyle of people across the globe in accordance with need to thrive has led to various diseases of both communicable and non-communicable origin. To combat this, demand a modified dosage forms of five basic mode of drug administration i.e.; Swarasadi Kalpana is attempted here in this review. Different formulations are explained in Ayurveda considering different factors like age, strength, habitat, acceptance, palatability, ease of administration, potentiation of drug, storage of drug and availability of drug according to place and time. Ayurveda explains basically five types of Kashaya Kalpanas¹ which aim at isolation of suitable active principles through different media. They are Svarasa (Fresh Juice), Kalka (Fine Paste), Kwatha (Decoction), Hima (Cold Infusion) and Phanta (Hot Infusion). These have shorter shelf life, palatability problems, acceptance for immediate usage in subjects, different age groups, storage and availability in all places and every time. The benefits of these five fundamental drugs dosage forms are they are easily be prepared, fresh and ready to serve, drugs in raw form also can be used and have a high potency of drugs. In contrary, there a few disadvantages for these formulation modalities like non palatability, shorter storage period, non-transportability, requires more time to prepare and serve, non-availability of fresh drugs through-out all seasons, shorter preservation period, etc. To overcome all these hurdles, the development of new dosage forms based on the fundamentals of Ayurveda is the need of the time. This article is an attempt in this direction.

1.1.LITERATURE REVIEW: Dosage Form:

Dosage forms or Unit doses are pharmaceutical drug products in the form in which they are marketed for use with a specific mixture of active ingredients and inactive components, in a particular configuration².

Dosage Forms are classified according to the

1. Route of administration: like oral, topical, rectal, parenteral, vaginal, inhalation, ophthalmic, otic.
2. Physical form: Liquid- Drinks; Solid-Pill, tablet, or capsule; Semisolid dosage forms –syrup, gels, Gaseous-aerosols, sprays.

2. MATERIALS & METHODS: Need for New Dosage Form:

बहुतातत्रयोग्यत्वमनेकविधकल्पना।संपञ्चेतिचतुष्कोऽयंद्रव्याणांगुणउच्यते॥च.सू.९/७

Ayurveda explains four qualities of drugs like plenty of availability, potent, different formulation, possessed with all qualities as the qualities of drug. Transformability of a drug to multitudes is one among the essential qualities of drugs, which highlights the aspect regarding the new dosage form.

स्वबुद्धयैवं सहस्राणिकोटीर्वाऽपिप्रकल्पयेत्। बहुद्रव्यविकल्पत्वाद्योगसंख्या न विद्यते। (च.क.१२/५०)

The permutation and combinations for drug discovery and potentiating the raw drugs are innumerable which is based on Yukti. Yukti means Yojana³ (proper planning) according to the Roga, Rogi, Prkruti, Vaya, Bala, Agni, Bhakti, Saatmya, Roga Avastha⁴. This can be observed in KalpaSthana of Charaka Samhita, where multiple formulations of single drug is mentioned by combining it with several other drugs. These can be utilized in different conditions based on the route of administration site, stage and strength of disease.

Scope for new Dosage Form:

अल्पस्यापिमहार्थत्वंप्रभूतस्याल्पकर्मताम्। कुर्यात्संयोगविश्लेषकालसंस्कारयुक्तिभिः॥ (च.क.१२/४८)

Further the scope for newer dosage form is highlighted in these verses stating that the drug or formulation can be potentiated or its therapeutic potency remodeled by the procedures of Samyoga (Addition of ingredients of combination), Vishlesha (removal of ingredients), Kala (contact of drug for required period, administration of drug or formulation based on Avastha of Roga, RogiBala, Agni, Vaya, Kala), Samskara (processing and methods of processing), Yukti(mode of combination). (Table1.)

इष्टवर्णरसस्पर्शगन्धार्थं प्रतिचामयम्। अतोविरुद्धवीर्याणां प्रयोग इति निश्चितम्॥ (च.क.१२/४६)

The drug or formulations should be prepared such that it should be acceptable to the patient by converting it into acceptable colour, taste, touch, odour etc. with due consideration to the diseases, even the non-compatible drugs can be used in various diseases. Eg. Use of Nasal errhine's (Ghreya Yoga) for inducing therapeutic emesis (Vamana)⁵; use of Utpala Nala Kshara in Raktapitta⁶, though it is not indicated in the disease. (Table.No.1.)

3. DISCUSSION:

Modifications and changes are imperative for any science to grow and reach greater heights. Ayurveda has multiple effective basic formulations for treating various diseases and disorders but problems of shelf life and non palatability pose as major challenge to administration of drugs. Suitable dosage forms are required for protection of the drug from ill effects of the changes in atmosphere, from gastric acid on oral administration, to mask the bitter taste and foul odour, to provide extended drug action through controlled release mechanism etc. To use these formulations in this present era they require effective modifications into new dosage forms which enhance shelf life and palatability that suit to the patients without compromising the underlying basic principles. Primary preparations are mainly modified for increasing palatability, Shelf life, Global acceptance, adopting to market standards, easy administration, dose fixation. (Table.No.2) Modification into new dosage forms help to achieve the public acceptance by enhancing the appearance, form, palatability, shelf life, increasing therapeutic utility or potency, simplifying dispensing and portability⁷. This can be achieved by addition of the following agents like⁸

- Suitable vehicle to dissolve or suspend drugs. They are also used to mask the bad taste of the drug and to potentiate the drug. These are used for Bhavana, cooking the drugs, use of Anupana etc.
- Harmless colouring agents, to make the drugs more acceptable.
- Sweetening agents like cane sugar are used for syrups to make it palatable, make the formulation indicative for PaittikaVikara, and can be used even in pediatric age group.
- Flavouring agents to mask the non acceptability of taste, touch, smell, sight and sound. Addition of Trijata, Chaturjata, etc. enhances the taste and smell.

Table 1: Benefits of modified dosage forms

| Benefits | Kalpna |
|---|---|
| Enhancing Appearance | Ghruta, Churna into Capsule Churna into Chewable tablets |
| Form | Kashaya into Ghanavati, granules |
| Palatability | Kashaya into Vati, syrup |
| Shelf life | Asava, Arishta |
| Increasing therapeutic utility or potency | Taila into liniment |
| Simplifying, dispensing and portability | Capsule, Tablets, Granules |
| Drug Delivery | Liniment, Ghruta Kalpana |
| Drug orientation | Ghana Vati |

Table 2: PanchaVidha Kashaya Kalpana with their modified dosage form

| Kalpana | Modified dosage form |
|---------|--|
| Swarasa | Ghana Vati, Syrup (eg: Sariva, Amalaka) Dry powder (sunlight, vaccum dry), Juice |
| Kalka | Churna, Patches |
| Kashaya | Tablet, Ghana vati, Kashaya Sukshmachurna, Arishta, Syrup, Arka |
| Hima | Syrup, Arka |
| Phanta | Syrup, Arka |

4. CONCLUSION:

Panchavidha Kashaya Kalpana are widely used as the primary preparations as initial dosage form. They are also the base for many different dosage forms. The importance of various dosage forms in Ayurveda is to make it acceptable to the patient. In order to achieve this the potency of a drug can also be enhanced or decreased in accordance with the Roga, Rogibala, Agni, Prakruti and Satmya of the patient. Thus new dosage form out of these Kashaya Kalpana can be formulated without disturbing the principles of Ayurveda based on Samskara and Yukti.

Conflicts of Interest: None Declared.

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