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Pharmaceutical evaluation of *Haridra Khanda* tablet

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ABSTRACT

Haridra Khanda is unique classical formulation indicated in *Udarda, Shitapitta, Kotha*. (Urticarial rashes) *Khanda* or Granules are a comparatively unusual means of administering drugs that possess an unpleasant taste. *Haridra Khanda* is classical Ayurvedic medicine and available market. Keeping the issue of palatability and invention of patient friendly dosage form in mind, the efforts was made for preparation of tablet out of classical Ayurvedic formulation - *Haridra Khanda.* The preparation of *Haridra Khanda* granules were made by standard operative procedure.Binding agents were added to *Haridra Khanda* . *Haridra Khanda* was added to mass mixer to ensure homogeneity and easy mixing of all binding agents. And later this mixture was subjected to single punch tablet machine for preparation of 1000 mg tablet. All the Analytical parameters were passed by the *Haridra Khanda* tablets. Physician can prescribed the tablets to the patients which feel the powdered dosage uncomfortable. Depending on the *Roga* and *Rogibala,* tablets of various sizes can be punched and used clinically. This can work more efficiently in pediatric practice.

Key words: *Haridra Khanda Tablet, Punch Tablet, Tablet Dosage Form.*

INTRODUCTION

Haridra Khanda is unique classical formulation indicated in *Udarda, Shitapitta, Kotha.*[1] (Urticarial rashes). *Khanda* preparations (Granules) are *Upakalpana* (sub- classification) of *Avaleha Kalpana* (semisolid preparations like Linctus). Granules are a comparatively unusual means of administering drugs that possess an unpleasant taste. The drug is mixed with sugar, a flavouring agent and inert adjuncts, moistened to produce a coherent mass, granulated by passage through a sieve and dried. *Khanda* preparations are similar to *Avaleha* preparations and just few steps ahead to *Avalehapaka Lakshanas* to achieve granular stage. *Haridra Khanda* is available in the market and widely used by Ayurvedic physicians for upper respiratory tract infection. As per pharmacology, the powdered dosage forms gets absorb easily and shows quicker action as compared to dosage forms like tablets, capsules, linctus etc. but powdered dosage forms are not suitable for age groups like children (mainly Toddlers) or age group above 70 years, as the palatability issue is the concern.

Haridra Khanda is classical Ayurvedic medicine and available market. Hence pharmaceutical trial was made for comparison between market available medicine and new dosage form (Tablet) of same drug. Keeping the issue of palatability and invention of patient friendly dosage form in mind, the efforts was made for preparation of tablet out of classical Ayurvedic formulation - *Haridra Khanda.*

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Materials and Methods

Ingredients of *Haridra Khanda*[2]

SN	Sanskrit Name	Botanical Name	Part Used
1.	*Haridra Churna*	*Curcuma longa*	Rhizome
2.	*Goghrita*	-	-
3.	*Godugdha*	-	-
4.	*Sharkara*	-	-
5.	*Shunthi*	*Zingiber offinale*	Rhizome
6.	*Maricha*	*Piper nigrum*	Fruit
7.	*Pippali*	*Piper longum*	Fruit
8.	*Twak*	*Cinnamomum zeylanica*	Bark
9.	*Ela*	*Elettaria cardamomum*	Seeds
10.	*Patra*	*Abes webbiana*	Leaves
11.	*Vayavidanga*	*Embelia ribes*	Fruit
12.	*Trivrit*	*Operculina turpenthum*	Root
13.	*Amalaki*	*Emblica officinalis*	Fruit
14.	*Haritaki*	*Terminalia chebula*	Fruit
15.	*Vibhitaki*	*Terminalia bellerica*	Fruit
16.	*Nagakeshara*	*Mesua ferrea*	Leaf
17.	*Lohabhasma*	-	-

The preparation of *Haridra Khanda* granules were made by standard operative procedure. Uniform granular sized particles were maintained in the preparation. Later it was stored in air-tight container.

Preparation of *Haridra Khanda* Tablet

Here while preparing *Haridra Khanda* the ingredients were taken one and half times more than the quantity mentioned in the classics, to confirm the content of minimum of minimum batch size for preparation of *Haridra Khanda* tablets.

The obtained tablets were 1200mg in weight, brown colored capsule shaped.

Binding Agents[3]

Weight of the Tablet	1200 mg
Starch	100 gm.
Di calcium phosphate	400 gm.
MCCP (micro crystalline cellulose powder)	500 gm.
Primogel	50 gm
Aerosil	50 gm

The above mentioned binding agents were added *Haridra Khanda*. *Haridra Khanda* was added to mass mixer to ensure homogeneity and easy mixing of all binding agents. And later this mixture was subjected to single punch tablet machine for preparation of 1000 mg tablet.

Results

Analytical reports of punched *Haridra Khanda* Tablets

Test	Results
Physical Description	Brown in Color, capsule shaped and without any break
Weight Variation	1140-1235
Average Weight	1204mg
Hardness	6.0Kg/cm^2
Friability	0.30%
Disintegration Time	56.25 min
Length	20.2mm
Width	10.1mm

All the Analytical parameters were passed by the *Haridra Khanda* tablets.

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Raw Haridra

Fried Haridra with Goghrita

Uniform Granule Size

Discussion

Haridra Khanda is a formulation which is in a Granular consistency. Though the rate of absorption is higher in case of powdered form dosage, tablets becomes first choice as it is a more convenient dosage form. The dosage given in the form of *Churna* can be replaced by the tablets in a divided dosage forms if patient finds tablets more convenient than powders.

In the preparation of *Talisadi Gutika*, the reference suggests a hand rolled *vati*out of *Talisadi Churna* by preparation of concentrated sugar syrup. Taking this to consideration, Earlier an attempt was made for preparation of hand rolled *Vati* and *Lehya* out of *Haridra Khanda* when the preparation was at *Avaleha* consistency, but very next day fungus was detected over both *Vati* and *Lehya.*

Rationale behind preparation of Tablet

Haridra Khanda is a polyherbal formulation. During preparation, *Bhasmas* were added along with *Prakshepaka Dravyas* and mixed thoroughly till attainment of granular consistency. This may not ensure homogeneity of *Bhasma* which may lead to inappropriate dose. To overcome this issue, we thought of developing a new dosage form to ensure homogeneity. Blending in a homogenizer (Mass Mixture) is an intermediate procedure for preparation of tablets, which helps in maintaining the uniformity of all ingredients in a single tablet. Hence, an attempt was made to prepare 1000mg tablets.

Here while preparing *Haridra Khanda* the ingredients were taken one and half times more than the quantity mentioned in the classics, to confirm the content of minimum of minimum batch size for preparation of *Haridra Khanda* tablets.

Starch[4]

Starch is widely used as thickening, stabilizing, gelling and/or filling agent in many food applications and it considered as the most used excipient in pharmaceutical formulation it has many pharmaceutical applications and it is used mainly in tablets as filler, binder or disintegrate.

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Dicalcium Phosphate[5]

Di-calcium Phosphate is an ingredient in a range of different products. It's used in the production of tablets and capsules as a "flowing agent"

MCCP (micro-crystalline cellulose powder)[6]

Microcrystalline Cellulose powder is a white powder without any taste or smell, able to add form and hardness to the tablets. MCCP maintains the necessary advantages of a diluents. It is effective as a bulking agent in tablet or capsules. Microcrystalline cellulose has minimal bulk density, increasing flow characteristics. Easy flow helps to ensure that each ingredient is consistently spread throughout a mixture.

Primojel[7]

Primojel - Sodium starch glycolate is a superdisintegrant suitable for a variety of tablet and capsule formulations. In higher concentrations, Primojel can act as a dissolution enhancing agent. Primojel is highly effective when used intragranular and/or extragranular in granularformulations.

Aerosil[8]

It is submicroscopic, light, loose, bluish-white, odourless, tasteless, non-gritty, amorphous powder. Glidant, suspending and / or viscosity increasing agent, anticracking agent.

The obtained tablets were 1200mg in weight, brown colored capsule shaped. All the Analytical and pharmaceutical parameters were passed by this *Haridra Khanda* Tablets.

CONCLUSION

Tablets ensure palatability, bad taste, odour of active ingredients can be bypassed. Process of preparation of Tablets consists of thorough mixing of all ingredients. Thus each tablet can ensure the presence of all active principles in one dosage. By taking this concept *Haridra Khanda* tablet was prepared with addition of binding agents. The necessary parameters such as disintegration time, friability test, and hardness test were passed by prepared 1000 mg tablets. This gives rise to new dosage form for classical formulation. Physician can prescribed the tablets to the patients which feel the powdered dosage uncomfortable. This can work more efficiently in pediatric practice also. Tablets can be administered by dividing the dosage like twice a day or thrice a day to fulfill the requirement of powdered dosage. Depending on the *Roga* and *Rogibala,* tablets of various sizes can be punched and used clinically. This can work more efficiently in pediatric practice also. Tablets can be administered by dividing the dosage like twice a day or thrice a day to fulfill the requirement of powdered dosage drug.

REFERENCES

1. Shri Govindadas, Bhaishajya Ratnavali -hindi by Prof. Siddhinandan Mishra, Chawkhamba Surbharati Prakashan, Varanasi, 2007, p898.
2. Shri Govindadas, Bhaishajya Ratnavali -hindi by Prof. Siddhinandan Mishra, Chawkhamba Surbharati Prakashan, Varanasi, 2007, p898.
3. https://pdfs.semanticscholar.org/cfa6/49bd60e8a960a3f09a a790f98dfd19d904f3.p
4. https://sciencing.com/different-granulating-binding-agents-8647281.html#:~:text=Starch,as%20corn%2C%20potato%20and%20wheat.
5. https://pdfs.semanticscholar.org/cfa6/49bd60e8a960a3f09a a790f98dfd19d904f3.p
6. https://pdfs.semanticscholar.org/cfa6/49bd60e8a960a3f09a a790f98dfd19d904f3.p
7. https://pdfs.semanticscholar.org/cfa6/49bd60e8a960a3f09a a790f98dfd19d904f3.p
8. https://pdfs.semanticscholar.org/cfa6/49bd60e8a960a3f09a a790f98dfd19d904f3.p

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