

FORMULATION AND EVALUATION OF CHURNA

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ABSTRACT

This report focuses on Triphala Churna, the oldest known natural herbal medicine in Ayurvedic medicine, its phytochemical components and pharmacology. & clinical benefits. According to the Indian Ayurvedic form, it is prepared by combining three ground myrobalans called *Emblica officinalis* Galton, *Terminaria berylica* Galton, and *Terminalia Chebula* Lettu. ratio of 1:1:1^[1] It is also known as herbal laxative that help in quick relief from digestive distress like Constipation, acidity, bloating and many digestion problem. It contains vitamin C rich amla it is also helping elevating your immunity level and energy level.^[3] In triphala possess free radical scavenging, antioxidant, anti-inflammatory, antipyretic, analgesic, antibacterial, antimutagenic, Wound healing, anti-cariogenic, antistress, adaptation promoting, anti-diabetic, hypoglycemic, etc. All these properties make 'Triphala' one of the most valuable herbal preparations in the world.^[2]

KEYWORDS: Triphala, Ayureveda, Gallic acid, Herbal formulation , Physical parameter.

INTORDUCTION

Principal of ayurveda

Ayurveda is a system of medicines with historical roots in the Indian subcontinent, Ayurveda is one of the oldest system of medicines which come existence in about 900 BC. Before 500 years ago. The word 'ayu' means life and 'Veda' means science, life literally, Ayurveda means science of life. Charaka and sushruta made significantly contribution to Ayurveda. The book

‘charak Samhita’ was written by Charka and he was known as father of Ayurveda. Ayurveda as a means of preventing and curing illness.

Herbal Formulation^[6]

Herbal preparations are dosage forms consisting of specified amounts of one or more herbs or processed herbs to provide specific nutritional, cosmetic, and/or other benefits. Used to diagnose, treat, or alleviate human or animal disease and/or change the structure or physiology of humans or animals.

Classification of herbal formulation

1. Traditional dosage forms – eg. Pills, powder, semi fluids extracts
2. Modern herbal dosage form – eg. Tablets, capsules, suppositories
3. Novel dosage forms – eg. Microcapsules, liposomes, phytosomes.

Advantages of herbal formulation

1. Low risk of side effects.
2. More effectiveness.
3. Lower cost.
4. Widespread availability.
5. Safe, no adverse effect

Churna^[5]

Churna is defined as totally dried raw material which is powdered very minutely to make their small size and again filtered through cloth's grid, and obtained fine powder is called as “churn”. Ayurvedic churna combines all the six Ayurvedic tastes: sweet, sour, salty, spicy, bitter and astringent. It is made with a combination of different fresh herbs and can be added to almost any food. Not only do churns improve the taste of the dish and add their own nutritional value, they also bring out the medicinal qualities of the foods they are added to. Ayurvedic churns can also be sautéed in ghee before being added to a dish.

Types of Churn

1. Simple Churn: It contains only one medicament.
2. Compound Churn: It contains two or more than two medicaments.

Method of Preparation

The drugs are cleaned and dried properly. They are finely powdered and sieved. If you have more than one drug, grind each one separately, sieve, and carefully weigh before mixing. The

powder is fine to the extent of at least 60 mesh sieves. It should not stick or get wet. The finer the powder, the greater the therapeutic value.

Uses^[7]

- It may relieve constipation.
- It may act as a laxative.
- It may enhance digestion.
- It may reduce acid reflux.
- It may reduce flatulence.
- Can reduce the occurrence of gastric ulcers.

AIM

Formulation and Evaluation of Herbal formulation Churn.

OBJECTIVE

1. To enhance digestion.
2. To help in constipation, dental issues and weight loss.
3. To reduce occurrence of peptic ulcer.
4. To treat variety of different health issues and prevent chronic disease.
5. Churn is essentially a powdered compound used for ayurvedic medicines.

Physical characterization^[5]

Physical characteristics of In-house formulation were done as per pharmacopoeial procedures. The information gleaned from this evaluation was important to avoid ambiguous predictions regarding the stability and solubility of the formulation.

1. Bulk Density

This is the ratio of a given powder mass to the bulk volume. For measurements, an accurately weighed amount of powder sample is placed into a graduated cylinder using a funnel. The initial volume was noted. The weight to volume consumed ratio was calculated.

$$\text{Bulk density} = \frac{w}{V_0} \text{ g/ml}$$

Where, W mass of the powder, V₀ = untapped volume

2. Tapped Density

To measure, place a known amount (25 g) of powder in a graduated cylinder and tap it a set number of times. The initial volume was noted. The The graduated cylinder was tapped continuously for 10–15 min. The density can

$$\text{Tapped volume} = \frac{W}{V_f} \text{ g/ml}$$

Where, W = mass of the powder, V_f = tapped volume.

3. Carr's index.

The powder tends to be compacted. Based on the apparent bulk density and tapped density, the percent compressibility of a powder can be determined using the following formula.

$$\% \text{ Compressibility index} = \frac{\text{tapped density} - \text{Bulk density}}{\text{tapped density}} \times 100$$

4. Hausner Ratio

It indicates the flow properties of the powder. The ratio of the tapped density to the powder's bulk density is called the Hausner ratio.

$$\text{Hausner ratio} = \frac{\text{Tapped density}}{\text{Bulk density}}$$




5. Angle of Repose

The interior angle between the surface of the powder pile and the horizontal plane is called the angle of repose. Pass the powder through a funnel attached to a 4 cm high burette. Graph paper is placed on the table under the funnel. The top and the radius of the pile had been measured. The angle of repose of the powder was calculated using the following formula.

$$\text{Angle of repose} = \tan^{-1} \frac{h}{r}$$

Where, h-height of the pile, r radius of the pile.

Drug Profile^[4]

Sr.no	Drug name	Amlaki	Bibhitaki	Haritaki
1	Figure :			
2	Botanical name	Emblica Officinalis, Phyllanthus emblica	Terminalia bellirica	Terminalia chebula
3	Botanical source	Amalaki consist of dried fruit pericarp of Emblica Officinalis Garth. (Phyllanthus emblica linn)	It consist of dried fruit pericarp of Terminalia Bellirica (Gaerth). ROxb	Haritaki consist of pericarp of dried fruit of Terminalia chebula Rertz.
4	Family	Euphorbiceae	Combretaceae	Combretaceae
5	Category	Antiscorbutic, Antacid, Carminative, Hepato-protective, Raktapitta	Purgative, expectorant, anti-hyperlipidaemic, svarabheda	Purgative, astringent, antiaging, resortative rasayana
6	Active constituent	<p>1. Amalaki contains not less than 1.0% w/w gallic acid calculated on the dried basis.</p> <p>2. Tannins, ellagic acid and glucose.</p> <p>1. Pectins and vitamin c (Ascorbic Acid).</p>	<p>1. Bibhitakiconains not less than 0.3% w/w of ellagic acid and 0.75% w/w gallic acid, calculated on the dried acid.</p> <p>2. Tannic acid glycosides, chebulagic acid, oxalic acid, mannitol, rhamnase, galactose, glucose, fructose.</p>	<p>1. Haritaki contains not less than 5% w/w of chebulic acid and not less than 12.5% w/w of chebulic acid, calculated on the dried basis.</p> <p>2. It also contain anthraquinone glycoside, tannic acid (2040%) and vitamin C, ellagicacid, triterpenoids, and polyphenolic compounds.</p>
7	Uses	<ul style="list-style-type: none"> • Strong rejuvenation • Balances stomach acids Promotes Brain health • Detoxification • Strengthens immune system • High vitamin C content • Maintain skin health • Prevents premature graying and hair falls 	<ul style="list-style-type: none"> • Used to treat stomach ulcer. • It heals wounds. • Improves blood sugar level. • Provide antiinflammator effect. • Enhance digestion. • Relieves constipation • Boosts immunity. 	<ul style="list-style-type: none"> • Prevent hair loss and dandruff. • Remove acne and ulcer. • Prevent diabetes. • Fight with skin allergies. • Boost immunity. • Helps in weight loss. • Prevents cough and cold.

DISCUSSION

- Triphala churna is Ayurvedic herbal formulation composed of 3 equal proportion of herbal fruits *Phyllanthus emblica* (Amlaki), *Terminalia bellerica* (Bibhitaki) and *Terminalia chebula* (Haritaki).
- Triphala is a Tridoshic Rasayana having a balancing and rejuvenating effect on three constitutional elements that governed human life. Triphala is rich in Antioxidant, antibacterial, Antiviral and Anticancer properties.

CONCLUSION

- From the above study it is concluded that Triphala is the most well known for its gentle effect on bowels, improving peristalsis and cleansing toxic build up of waste. However, Ayurveda also considers triphala a dietary supplement known for its ability to rejuvenate healthy tissue and enable graceful aging. Therefore, it is also called triphala as “Nectar of life”^[2]
- In Ayurvedic terms triphala used in moderation is said to have a beneficial effect on all tridoshas vata, Pitta and kapha.

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