



## Review Article

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### A REVIEW ON DHATRYADI GHRITA

Rashmi Saxena Pal <sup>\*1</sup>, Amrita Mishra <sup>2</sup>

<sup>1</sup>Assistant Professor, Pharmacy Department, Pranveer Singh Institute of Technology, Kanpur, India

<sup>2</sup>Assistant Professor, Pharmacy Department, IFTM University, Moradabad, India

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**\*Corresponding author**

E-mail: rashmisaxenapal@gmail.com

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#### ABSTRACT

Dhatryadi Ghrita is a clarified butter belonging to the category of Ayurveda formulations is mainly used for the cure of diseases related to pitta and Raktapitta disorders. Dhatryadi Ghrita contains the ingredients as Cow-Ghee (Go-Ghrita), Amla (*Emblica officinalis*), Shatavari (*Asparagus racemosus*), Yasti (*Glycyrrhiza glabra*), Iksu (*Saccharum officinarum*), Sveta Candana (*Santalum album*), Ksira (Go-Dugdha), Kusmanda, Vidari, Mrdvika (Draksha), and Sita (Crystal sugar). The use of Dhatryadi Ghrita and its ingredients has been well defined in ancient Ayurveda texts like Charak Samhita, Ashtang Hridaya, Bharat Bhaishajya Ratnakar and Bhav Prakash Bighantu etc. This article is aimed to gather all the scientific research findings supporting the use of Dhatryadi Ghrita and its ingredients in the prevention, treatment and cure of various pitta disorders and other ailments in human beings. Ingredients of Dhatryadi Ghrita viz. Dhatri (*Emblica officinalis*) possess various pharmacological activities like Anti-anemic, Anti-ageing, Antiasthmatic, Antioxidant, Antidiarrheal, Antiviral, Hair tonic, Hepatoprotective properties etc. The aim is to support the pharmacological potential of Dhatryadi Ghrita and its ingredients with scientific results.

**Keywords:** Dhatryadi Ghrita, Medicated ghee, Go-Ghrita, Antidepressant, Antioxidant, Alcoholism

#### INTRODUCTION

Ghrita are mainly the Ayurvedic dosage forms which are prepared according to the prescribed formula, in which ghee (Clarified butter made from the milk) is boiled with the required kasayas (liquid extract obtained by decoctions) and the kalkas (pastes) of drugs in order to facilitate the absorption of the active therapeutic principles of the ingredients which are meant to be incorporated in the formulation.<sup>1</sup> These lipid based polyherbal formulations have the potential to cross blood brain barrier and show beneficial effects on brain tissue. Dhatryadi Ghrita is an Ayurvedic medicine, also known as herbal or medicated ghee, with ghee as its base and it is prescribed for the treatment of various CNS disorders. Its main ingredient is Dhatri (*Emblica officinalis*).<sup>2</sup> This Ghrita possess greenish-yellow color, pleasant odor and sweet taste. It is used in the treatment of anemia, dizziness, gonorrhoea, leucorrhoea and other diseases of pitta dosh (Bile disorders).<sup>3</sup> It is assumed that synergism of these herbal drugs in preparation of DG and extraction of lipid soluble extractives of these drugs in Go-Ghrita (Cow Ghee) may show cumulative positive effect on psychosis and helps to prevent blood related disorders. Vehicle used in preparation of Dhatryadi Ghrita is Go-Ghrita which makes the preparation highly lipid soluble and it easily crosses blood brain barrier. Thus, helps to carry active components to specific target site (i.e. Central Nervous System). In Ayurveda, Ghee has been considered to be the healthiest source of edible fat possesses beneficial properties and facilitate the positive effect of herbal drugs added to it in the preparation of medicated ghee.<sup>4</sup> It is well documented that Go-Ghrita promotes longevity and protects normal functioning of body entities as well intellect and memory.<sup>5</sup> The dosage of Dhatryadi Ghrita as a medicine should be quarter to half teaspoon with water, usually before food, once or twice a day, or as directed by Ayurvedic doctor. For Panchakarma preparation – Snehana procedure, the dose depends on the disease status and the judgment of Ayurvedic

doctor. It is usually administered with warm water and a little sugar.<sup>2</sup> This Ghrita should not be taken in the conditions such as high fever, hypertension, diabetes, obesity, hypercholesteremia and other cardiac diseases.<sup>3</sup>

#### Literature

Literature was studied in order to pertaining the information about Dhatryadi Ghrita through search done on Google scholar, MEDSCAPE, BMC, Science Direct, MEDLINE database, SCOPMED and other relevant databases, using keywords like Ghrita, Amalki, Draksha, Ayurveda etc. The information was also extracted from various Ayurvedic treatises, text books of Ayurveda and books of Pharmacognosy available in Library of Pranveer Singh Institute of Technology, Kanpur and NBRI Lucknow. Available dissertations/thesis and various research articles were also investigated.

#### Dhatryadi Ghrita

Each ingredient of Dhatryadi Ghrita individually contains lot of medicinally active constituents as mentioned in the Ayurvedic texts. According to the Ayurveda theory, it is said that the cumulative effect of these ingredients is seen in final product that is Dhatryadi Ghrita. Hence probably Dhatryadi Ghrita is useful in the treatment of digestive impairment occurred due to Pittavikara (Bile disorders) and can be used to improve fertility in females. Ghee is included in Chatushsneha which is the best obtained from Cow Ghee has a specific property i.e. it enhances its properties along with the properties of other drugs mixed with it without losing its own natural properties. Among the other animal, Ghee obtained from Cow has its very own importance.<sup>7</sup>

## Ingredients of Dhatryadi Ghrita

Table 1 summarizes all the ingredients with their botanical name and parts used in Go-Ghrita.<sup>1</sup> Table 2 shows properties and actions of each drug as per Ayurveda, therefore it can be inferred that Dhatryadi Ghrita has Madhura rasa, Sita Veerya and Madhura Vipaka.<sup>8-11</sup> It mainly has actions against Pittavikara, Raktapitta and Unmada. Thus, it can be said that this formulation may show effect in pitta dominant diseases. Similarly, literature search from various other sources made it clear that all ingredients of Dhatryadi Ghrita have different activities and immense potential in the effective cure and treatment of many ailments as per Table 3.<sup>12</sup> All the main nine ingredients of Dhatryadi Ghrita maximally have action on Central Nervous System as anti-psychotic, anti-alcoholic and as an antioxidant. Thus, it is interpreted that as a cumulative effect Dhatryadi Ghrita prepared with all these ingredients may have all these activities. The ingredients of Dhatryadi Ghrita have been assessed for various activities. Amla shows immunostimulant and anti-oxidant potential and Shatavari shows diuretic and anti-depressant activity. Vidari have been experimentally assessed for galatogogue and rejuvenating activities. Iksu shows laxative, anti-diarrheal activity and Yasti showed anti-diabetic and expectorant properties. Expectorant and anti-tubercular actions of Draksha have been confirmed in experimental studies. Anti-obesity and ulcer activity of Kusmanda has been proved. Svet Chandan shows antiseptic and coolant properties. Ingredients of Dhatryadi Ghrita maximally have action on the treatment of disorders related to indigestion and blood disorders.

## Anticancer Activity

Go-Ghrita was tested in the cancer-causing cells in the mammary glands and the expression of cyclooxygenase-2 and peroxisome proliferators were observed for the activated receptor- $\gamma$  in rats. In this study, it is concluded that cow ghee protects against mammary carcinogenesis.<sup>13</sup>

## Cardio protective Activity

In another study, it is indicated that if ghee is made to constitute 10% of the diet, it does not enhance the processes associated with the peroxidation of lipid molecules. It helps in preventing the risks of cardiovascular and other free radical-induced diseases.<sup>8</sup>

## Nutritive

Dhatri is a very good source of micro-nutrients. It is the richest source of Vitamin C. The nutritive value of fresh, mature fruits per 100 gram is in the range of 0.4 gram proteins, 14 grams carbohydrates. It is rich in Vitamin B1, B3, C, Calcium, Iron and Phosphorus. It has got high anti-oxidant value due to presence of tannins as well.<sup>14</sup>

## Anti-ulcer

Comparative study was done on two groups, one was treated with Omeprazole and other was treated with the fruit extract of Kusmanda and it was observed that Kusmanda treated group showed decrease in ulcer index which was the result of reduction in damage to gastric mucosa by free radical scavengers. The fruit of Kusmanda is rich in contents as

flavonoids and terpenoids, which is responsible for its anti-ulcer index.<sup>15</sup>

## Hypoglycemic Effect

Studies have proved that the juice obtained from the Sugar cane stalks shows anti-diabetic effects. The isolated constituent, saccharin, causes a transient reduction of blood glucose levels in the body. Increased glucose utilization in the liver and peripheral tissues was causing the transient hypoglycemic effect due to the complex polysaccharides present in the Sugarcane.<sup>16</sup>

## Galactogogue

The crude alcoholic extract of the roots of Shatavari increased the weight of mammary glands in post-partum and oestrogen-primed rats and the uterine weight in oestrogen-primed group, according to the study's results obtained. It has also been observed that the oral administration of roots of Shatavari, increased the milk yield in rats, goats, cows and buffaloes.<sup>17-21</sup>

## Increased Fertility

Vidarikand, a perennial herb is known for the properties such as vattapittasamaka, balya, brimhaneeya, sukrajanana (promotes the production of sperm/ semen). In-vitro and in-vivo studies have shown the uses of tubers as spermatogenic and aphrodisiac.<sup>22-23</sup>

## Expectorant

Among the several medicinal uses of Licorice, antitussive and expectorant properties with sweetening effect make it an important constituent of various Ayurvedic and herbal formulation.<sup>24</sup>

## Antisclerotic

Abundant carbohydrates (glucose) and organic acids such as tartaric, malic, succinic, citric and oxalic acids are behind the anti-sclerotic effects of Draksha causes lipoprotein oxidation of low density (LDL) by free radicals is associated with initiation of atherosclerosis. The active ingredients of the grape reduce formation of this lipoprotein.<sup>25</sup> Additionally studies on Licorice extract also show its Antisclerotic effect due to antioxidant property.<sup>26</sup>

## Hepatoprotective

Three constituents of DG viz. *Embllica officinalis* (Amla), *Glycyrrhiza glabra* (licorice), and cow's ghee (clarified butter fat) are also the major constituents of 'Amalkadi Ghrita' another Ayurvedic formulation of which study shown a significant Hepatoprotective activity by rectification of lowered protein level as well as lowering the levels of serum marker enzymes and bilirubin.<sup>27</sup>

## Skin Disease

Traditionally in India *Santalum album* is widely used topically for skin disorder since long time but recent studies also show its beneficial effect in gastric irritability, dysentery, gonorrhoeal, urethral, bronchial disorders.<sup>28</sup>

**Table 1: Ingredients of Dhatriyadi Ghrita<sup>1</sup>**

Sr. No	Ingredient	Botanical name	Useful part	Fig no.
1.	Amalki	<i>Emblia officinalis</i>	Fresh fruits	1
2.	Vidari	<i>Pueraria tuberosa</i>	Tuberous roots	2
3.	Iksu	<i>Saccharum officinarum</i>	Dried stem	3
4.	Shatavari	<i>Asparagus racemosus</i>	Tuberous roots	4
5.	Kusmanda	<i>Benincasa hispida</i>	Dried fruits	5
6.	Draksha	<i>Vitis vinifera</i>	Dried fruits	6
7.	Yasti	<i>Glycyrrhiza glabra</i>	Stolon & root	7
8.	Sveta Chandana	<i>Santalum album</i>	Heart wood	8
9.	Go Ghrita	<i>Butyrum deparatum</i>	-	

**Table 2: Properties of ingredients of Dhatriyadi Ghrita<sup>8-11</sup>**

S.No	Ingredient	Rasa (Taste)	Vipak	Veerya	Guna
1.	Amalki	Amla	Madhura	Sita	Snigdha
2.	Vidari	Madhura	Madhura	Sita	Snigdha
3.	Iksu	Madhura	Madhura	Sita	Snigdha
4.	Shatavari	Madhura	Madhura	Sita	Snigdha
5.	Kusmanda	Madhura	Madhura	Sita	Laghu
6.	Draksha	Madhura	Madhura	Sita	Snigdha
7.	Yasti	Madhura	Madhura	Sita	Snigdha
8.	Sveta Candana	Madhura	Madhura	Sita	-
9.	Go Ghrita	Madhura	Madhura	Sita	-

**Table 3: Activity Profile of DG Ingredients<sup>12</sup>**

S.No	Ingredients	Activity	Constituents
1.	Amalki	Immunostimulant, Laxative	Tannins, Vitamin C
2.	Vidari	Diuretic, Galactagogue	Gluconic & Malic acid
3.	Iksu	Anti-anaemic, Hepato-protective	Sucrose
4.	Shatavari	Galactagogue, Diuretic	Sugars, Glycosides
5.	Kusmanda	Anti-obesity, Anti-ulcer	Fatty oils
6.	Draksha	Expectorant, Anti-tubercular	Malic & Tartaric acid
7.	Yasti	Expectorant, Anti-ulcer	Glycyrrhizin, Glycyrrhetic acid
8.	Sveta Candana	Antiseptic, Coolant	Volatile oils
9.	Go Ghrita	Antimicrobial, Expectorant	-

## CONCLUSION

This study concludes that Dhatriyadi Ghrita possess a tremendous pharmacological and therapeutic potential. The reason behind the use of these ingredients of Dhatriyadi Ghrita is justified from the research findings of various experimental

studies on both human beings and animals. Dhatriyadi Ghrita and its ingredients are proved to possess Anti-anaemic, Hepato-protective, Antipsychotic, Antistress, Antialcoholism, Female infertility, Pitta disorders and many other therapeutic uses which are still to be explored.

**Figures:**



**(a) Whole plant**



**(b) Fresh fruits**

**Fig. 1: *Emblica officinalis***



**(a) Whole plant**



**(b) Tuberous roots**

**Fig. 2: *Pueraria tuberosa***



**(a) Whole plant**



**(b) Stem**

**Fig. 3: *Saccharum officinarum***



**(a) Whole plant**



**(b) Tuberous roots**

**Fig. 4: *Asparagus racemosus***

Figures



(a) Herb with fruit



(b) Fresh fruit

Fig. 5: *Benincasa hispida*



(a) Herb



(b) Dried fruits

Fig. 6: *Vitis vinifera*



(a) Whole plant



(b) Stolon & root

Fig. 7: *Glycyrrhiza glabra*



(a) Whole plant



(b) Heart wood powder

Fig. 8: *Santalum album*

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