

## Phyto-chemical evaluation of *Chakramarda (Cassia Tora) Ghrita & Go Ghrita (Butyrum departum)* as per *Ayurveda & contemporary science*

Alok kumar Diwedi<sup>1\*</sup>, Kiran Khandare<sup>2</sup>, Rakesh Khatana<sup>3</sup>, Harjodh Singh<sup>4</sup>

<sup>1</sup> PG Scholar Department of Shalyatantra, Mahatma Gandhi Ayurved College Hospital and Research Centre, Salod (H), Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra, India

<sup>2</sup> Professor & HOD, Department of Shalyatantra, Mahatma Gandhi Ayurved College Hospital and Research Centre. Salod (Hi) Wardha, Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra, India

<sup>3</sup> PG Scholar Department of Kaumarbhritya, Mahatma Gandhi Ayurved College Hospital and Research Centre, Salod (H), Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra, India

<sup>4</sup> PG Scholar Department of Agadanttra, Mahatma Gandhi Ayurved College Hospital and Research Centre, Salod (H), Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra, India

### Abstract

In modern era there is change in the lifestyle and in food habits also and that is leading to the various lifestyle disorders. Both of these causes produce disturbance in the digestive system that leads to many diseases including anorectal disorders such as piles, fissure, fistula, prolapsed etc. constitute a significant category. In Ayurved, *Sushrut* has described the term *Parikartika* as a condition of *Guda* (anus) where cutting and burning pain occurs, also with this pain in anus, penis, umbilical region and neck of urinary bladder with cessation of flatus. In this regard *Acharya Sushrut* explained the pathogenesis of disease that if a person is debilitated with *mrudukoshta* (mild digestive power) or *mandagni* (poor appetite) in such conditions more intake of food having the qualities of *Ruksha* (dry), *Ushna* (hot), *Lavana* (salty) etc. vitiate *Pitta* and *Vata* and leads to manifestation of the disease. The term "fissure" generally denotes a crack or a split or a cut. Fissure in ano is a small longitudinal ulcer in long axis of lower anal canal. In males fissures usually occur in the midline posterior- 90% and much less commonly anterior 10%. In females fissures on the midline posteriorly are slightly commoner than anteriorly (60:40). In *Ayurveda Chakramarda* is used for the treatment of *Pama, Jwara, Kasa, Kandu, Vrana, Dadru*.

**Keywords:** Ayurved, Fissure in ano, *Chakramarda, Parikartika*

### Introduction

In modern era there is change in the lifestyle and in food habits also and that is leading to the various lifestyle disorder. Both of these causes produce disturbance in the digestive system that leads to many diseases including anorectal disorders such as piles, fissure, fistula, prolapsed etc. constitute a significant category. In Ayurved, *Sushrut* has described the term *Parikartika* as a condition of *Guda* (anus) where cutting and burning pain occurs, also with this pain in anus, penis, umbilical region and neck of urinary bladder with cessation of flatus<sup>[1]</sup>. In this regard *Acharya Sushrut* explained the pathogenesis of disease that if a person is debilitated with *mrudukoshta* (mild digestive power) or *mandagni* (poor appetite) in such conditions more intake of food having the qualities of *Ruksha* (dry), *Ushna* (hot), *Lavana* (salty) etc. vitiate *Pitta* and *Vata* and leads to manifestation of the disease<sup>[2]</sup>. *Acharya Charaka* and *Vagbhata* used two words, "*Vikartika*" and "*Parikartika*" for denoting the condition. *Charak* described the features like, pricking pain in groins and sacral region, scanty constipated stools and frothy bleeding per anus<sup>[3]</sup>. Further *Acharya Charaka* mentioned *Parikartika* as a complication of *Vataj Atisara*.<sup>[4]</sup> *Chakrapani* also opines that *Upadrav* of *Atisara, Grahani, Arsha, Udavarta* and with this *Vamana Virechana vyapada, Bastikarmavyapada*, etc are the causes of *Parikartika*.<sup>[5]</sup>

*Acharya Kashyap* had a different opinion about *Parikartika* viz. *doshik (Vataja, Pittaja and Kaphaja)* classification aetiology, symptomatology and treatment of *Parikartika* in the chapter *Garbhini Chikitsa*<sup>[6]</sup>. The term "fissure" generally denotes a crack or a split or a cut. Fissure in ano is a small longitudinal ulcer in long axis of lower anal canal. In males fissures usually occur in the midline posterior- 90% and much less commonly anterior 10%. In females fissures on the midline posteriorly are slightly commoner than anteriorly (60:40)<sup>[7]</sup>. In *Ayurveda Chakramarda* is used for the treatment of *Pama, Jwara, Kasa, Kandu, Dadru. Rasapanchak* of *Chakramarda* is *Rasa-Katu, Guna-Laghu, Ushna, Virya-Ushan, Vipaka-Katu, Karma -Vata-Kaphasamak*<sup>[8]</sup>.

### 1. Aim of study

To evaluate the Pharmacological properties of *cassia tora* and the standardization of *Chakramarda Ghrit*.

### Material & Methods

The research information of *Chakramarda Ghrit* was obtained from the research papers, books, journals. Ayurveda literature from reference books, internet, and opinions subject experts utilize as a review. Basis for drugs choice *Chakramarda* is having *vraṇa shodhana* and *ropaṇa* properties which can help the *Vraṇa* (ulcer) to heal rapidly. Its base is *Ghrit* which itself is

having *Samskaranuvarti* (i.e it enhances the properties of drug) and healing properties. *Chakramarda Ghrith* is economically beneficial by virtue of easily available ingredients and a time tested classical formulation. Hence, it was selected for the clinical evaluation in the present study. *Sneha Kalpana*:-Sneha kalpana is prepared by taking in one matra, drug kalka (paste) in 1/4th of sneha and adding drava (liquid) four times sneha and adding drava(liquid) four times of sneha [9]. Heating the given combination till following characters are observed gives the sneha kalpana [10].

1. The drug kalka (paste) could be moulded in varti with two fingers
2. If the kalka (paste) is exposed to fire no sound is observed.
3. “Phen shanty”, that means no further bubbles are observed over ghruta while heating it.
4. Ghruta gets all the characters of crude drug by which it was medicated, such as smell, taste, color and its

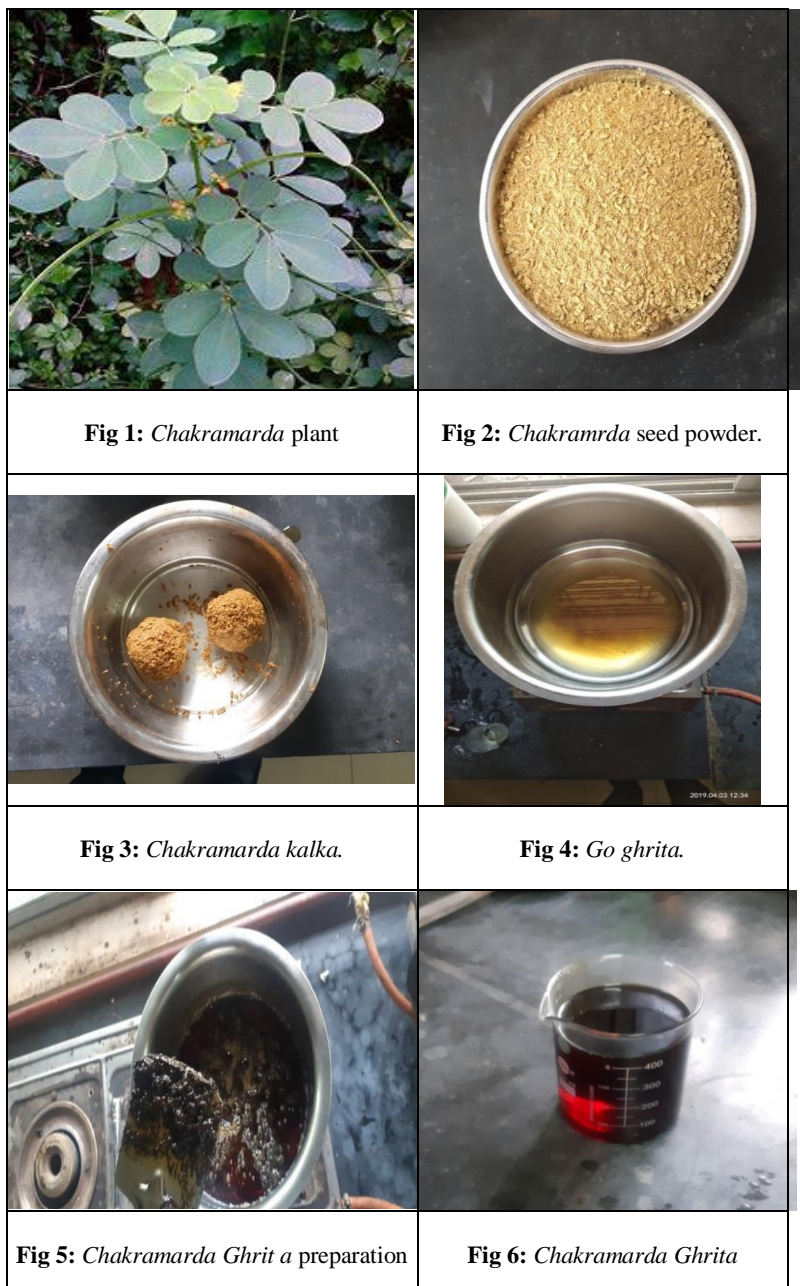
medicinal properties. Thus when this sneha gets prepared finally, it could be used for massaging the body, taking it orally, for the purpose of nasya (nasal drops), gandush (gargles), basti (enema), oiling the eyes, Vrana (wound) chikitsa etc.

**Method of preparation of *Chakramarda Ghrith***

*Chakramarda* kalka (1 part)  
 +  
*Go Ghruta* (4 part)  
 +  
*Chakramardakwatha* (16part)



Heating should be done until it attains *siddhilakshan*



**Composition of formulation**

Table 1

Sr. No	Name of the ingredient	Botanical Name	Part Used	Proportion
1	Chakramarda Kalka	Cassia toraLinn.	Seeds	1 part
2	Go-Ghrita	Butyrum departum	-	4 part
3	Chakramarda kwatha	Cassia toraLinn. (Decoction)	-	4part

**Drug review**

*Cassia tora* Linn. (Family: *Leguminosae*) is well known plant widely distributed in India and other tropical countries. It is an annual under shrub and grows in wild wasteland. Different parts of the plant (Leaves, seed, and root) are reputed for their medicinal value. It is well recognized traditional medicine as laxative and is useful for treatment of leprosy, ringworm infection, ophthalmic, skin diseases and liver disorders. The present review summarizes the scientific information of various aspects of *Cassia tora* plant used in traditional system of medicine for variety of purpose [11].

**Botanical name:** *Casia tora* [12]

**Family:** *Leguminosae*

**Habitat:** it grows throughout India

**Vernacular names:** [13]

**Sanskrit** - *Chakramarda*.

**Hindi**- *Chakvad*.

**Bengali**-*Chavka*.

**Gujrati**-*Kuvadiyo*.

**Tamil** -*Tagharai*.

**Telgu** -*Tagirise*.

**Malyalaum**- *Tagar*.

**Arabi** - *Kulwe*.

**Farsi**- *Sangeshbhuya*.

**Yoga**

*Dadrughani Vati* [14]

*Pamari Taila*

Table 2: Synonyms

SR. No.	Acharya	Synonyms
1	<i>Kaidev Nighantu</i> [15]	<i>Edgaj, Prapunnat, Dadrughna, Avartak, Chakramarda, Chakrika, Pamad, Meshkusum, Prapunnat.</i>
2	<i>Dhanvantari Nighantu</i> [16]	<i>Edgaj, Prapunnat, Kshodhak, Chakramarda, Chakrika, Tarvat, Kharjuraghna, Meshanishinikusum, Chakraghna</i>
3	<i>Madanpal Nighantu</i> [17]	<i>Edgaj, Prapunnat, Chakundi, Avartak, Chakramarda, Chakrika, Gajakhya, Meshavya, Chakragaj, Chakri, Punnad, Punnat, Vimarclak, Tarvat, Chakravaya, Drudbij, Kharjuraghna, Pannat, Andagal, Vyartak, Kustakrutant, Mardak, Andahasti, Megakusum.</i>
4	<i>Adarsh Nighantu</i> [18]	<i>Edgaj, Saudgaj, Prapunnat, Pravand, Chakwad, Kunwadiyo, Takala,</i>
5	<i>Raj Nighantu</i> [19]	<i>Edgaj, Prapunnat, Chakwad, Chakundi, Chakramarda, Andagaj, Gajakhya, Meshavya, Chakragaj, Chakri, Punnad, Punnat, Vimarclak, Tarvat, Chakravaya, Shukunash, Drudbij, Kharjuraghna.</i>

**Rasa Panchak** [20]

**Rasa-Katu**

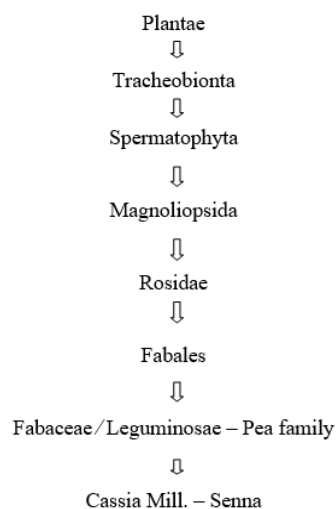
**Guna-** *laghu, ruksha,*

**Vipak-** *katu*

**Virya** -*ushna*

**Karma** -*kapha Vata shamak*

**External morphology**-A herb of having a height of approximately 0.5-1mtr. It has a bad odour. Leaves-compound and get closed in the evening. Flowers yellow. Legumes-10-15 Cm. long quadrangular. Each legume contains 20 – 30 seeds. Flowering occurs in rainy season and fruiting in winter [21].

**Classifications**

**Traditional uses** - [22] Different parts of the plant (Leaves, seed, and root) are reputed for their medicinal value. The

leaves of *C. tora* are reported to have antirheumatic activity in folklore practice. Decoction of the leaves is used as

laxative. The seeds of *C. tora* have been used in Chinese medicine as aperients, antiasthmic and diuretic agent. It is also given to improve visual activity (eye diseases) and to treat liver disorders. In Korea, the hot extract of seeds is taken orally for protection of liver. Leaves and seeds are

used in the treatment of skin disorders (Ringworm and itch). Stem bark extract is used for various skin ailments, rheumatic diseases and as laxative. In *Ayurveda*, the plant is used in 'Dadrughani Vati' and 'Pamari Taila'

### Phytochemical Profile <sup>[23]</sup>

**Table 3:** Chemical composition and Medicinal uses

Leaves	The leaves showed mainly the presence of Anthraquinone glycosides and Flavonoids. The Anthraquinone glycoside includes rhein, emodine, physion, chrysophanol (marker), Obtusin, chrysoobtusin, chryso-obtusin-2-O-β-D-glucoside, obtusifolin and chryso-obtusifolin-2-O-β-D-glucoside 3, 4.
Seeds	Several compounds belonging to anthraquinone and naphthopyrone groups have been isolated from seeds of this plant. Three crystalline substances have been isolated from seeds of <i>C. tora</i> known as tora substance A, B and C. From properties of these substances and some typical derivatives, it appeared that tora substance C might be identical with rubrofusarin a metabolic product of the fungus, <i>Fusarium culmorum</i> and tora substance B with norrubrofusarin the demethylation product of rubrofusarin.
Stem bark	The Stem bark of this plant contains arachidic acid, isostearic acid, linolenic acid, palmitic acid, marginic acid, behenic acid, phenolics like rhein, emodine, Hexahydroxy flavones and a Hydroxycoumarin (Aurapterol).
Roots	The roots of <i>C. tora</i> showed the presence of 1, 3, 5 trihydroxy 6, 7 dimethoxy-2-methyle anthraquinone, leucopelargonidine and β-Sitosterol.

**Properties:** Cassia tora is Hepatoprotective Activity, Anti-inflammatory activity, Hypolipidemic Activity, Nitric Oxide Scavenging Activity. Antiproliferative Activity, Purgative Activity, Antiulcer Activity, Antioxidant Activity, Antifungal Activity, Antihelminthic Activity, Antibacterial Activity <sup>[24]</sup>.

### Go-Ghrit <sup>[25]</sup>

Latin Name: *Butyrum departum*

Vernacular Names: *Sanskṛta: Ghṛta*

English: Clarified butter

Hindi: *Ghee*

Gujarati: *Ghee*

Synonyms: *Aajya, Havis, Snehottama, Varasneha, Sarpi*

Gaṇa: *Mahasneha*

Guna: *Shita, Guru, Rasayana*

Rasa: *Madhura*

Virya: *Sheet*

Vipaka: *Madhura*

Doshaghñata: *Tridoshahara*

Others: *Rakshoghna, Balya, Vranahara, Vishahara, Rasayana, Ayurvedhaka, Balakaraka, Agnivardhaka, Jivaniya, Varnya, Prasadana, Prinana, etc.*

### Importance of Go-Ghrit:

*Acharya Charaka* mentioned that *Ghrit, Taila, Vasa, Majja* are best among all *Sneha Dravyas*. Among these four, again he has indicated the superiority of *Ghrit* due to *Samskaranuvartana* property. <sup>[26]</sup> the quality of substance which when added with other substances does not change its original property and also imparts the quality of added substances. Through its *Yogavahi Guna*, it carries the active principle of the drugs at the level of the body tissue and increases the potency of *Ghrit* based formulation. It removes toxic substances from the body also.

### Actions and Uses

It promotes *Agni Sukra* and lengthens the life span. Attributes of Ghee i.e. unctuousness and coldness are antagonistic to those of *Vata* and *Pitta* like dryness, lustreless, roughness and heat respectively. Moreover,

boiling with *Kapha* antagonist drugs (like pungent, bitter taste), prepared medicated Ghee can inhibit the action of deranged *Kapha* due to its assimilating properties. It is good for complexion, voice and in *ksataksina, visarpa, Vishrog, Unmāda* etc <sup>[27]</sup>.

### Chemical Constituents

Ghee is a complex lipid of glycerides (majorly triglycerides), free fatty acids, phospholipids, sterols, sterol esters, fat soluble vitamins, carbonyls, hydrocarbons, carotenoids, (only in ghee derived from cow milk).<sup>[28]</sup>

### Discussion

In *Ayurveda Chakramarda* is used for the treatment of *Pama, Jwara, Kasa, Kandu, Dadru, Rasapanchak* of *Chakramarda* is *Rasa-Katu, Guna-Laghu, Ushna, Virya-Ushan, Vipaka-Katu, Karma -Vata-Kaphasamak*<sup>[29]</sup>. It is known for *Vranaropak* properties. Fissure in ano is longitudinal tear in the anoderm distal of anal canal. In contemporary sciences surgical treatment available for fissure in ano are sphincterotomy, lord's dilatation, fissurectomy, but these surgical procedures having adverse effects such as bleeding, infection, incontinence. To sort out these problem we need treatment which is easily applicable and non-surgical.

### Conclusion

*Chakramarda* is a medicine used by people particularly for the management of skin disease and wound / ulcer. There have been numerous research works on the same where *Chakramarda* proved to be an effective medicine. Therefore using this comparison *Chakramarda Ghrit* was rendered and used for local application in the management of Anal fissure which is considered to be an ulcer, assessment parameters were Itching, pain, bleeding, tenderness and healing on the basis of which its efficacy was assessed. In this study it is found that *chakramarda ghrita* is effective in the management of *parikartika*

### Conflicts of interest- No

**Contributions from authors- Equal contribution of all authors for this manuscript**

**Acknowledgments**

Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra, India

**References**

1. Shastri AD. Sushruta Samhita. Chikitsa Sthan. 35/32. Chaukhambha Sanskrit Sansthan: Varanasi, 2013, 155.
2. Sharma PV. Sushruta Samhita. Chikitsa Sthan. 34/16. Chaukhambha Vishwabharti Publishers: Varanasi, 2005, 595.
3. Sharma PV. Caraka Samhita. Chikitsa Sthan. Chaukhamba orientalia: Varanasi, 2005, 879.
4. Sharma P. Charaka Samhita. Chikitsa Sthan. 19/05. Chaukhambha Orientalia Publishers: Varanasi, 2008, 320.
5. Yadavaji T. Sushrut Samhita. Chikitsa Sthan. Chaukhamba Orientalia Publishers: Varanasi, 2002, 207-8.
6. Sharma PH. Kashyapa Samhita. Khilva Sthana. 10/102-5. Chaukhambha Orientalia Publishers: Varanasi, 2013, 299.
7. Das S. A concise Text book of Surgery. 9th ed. Somen Das Publisher: Kolkata, 2016, 1084.
8. Acharya Priyavat Sharma; Dravyagunavigyana 2, Dwitiya adhaya, 79. *Chakramarda*, Chaukhamba Bharti Academy, Varanasi, 2013, 186-188.
9. Shastri AD. Sushruta Samhita. Chikitsa Sthan. 31/8. Chaukhambha Sanskrit Sansthan: Varanasi, 2013, 170.
10. Sharangadhar samhita of Acharya sharangadhara, Varanasi: Chaukhambha Sanskrit Pratishthan; madhyamkhanda. 2003; 9/92:171.
11. Harshal P Pawar, Priscilla MD. Mello, Cassia Tora LINN. An overview, , International Journal of Pharmaceutical Sciences And Research,(IJPSR), 2011, 2(9).
12. Vaidya VM. Gogte; Ayurvedic Pharmacology and Therapeutics Uses of Medicinal plants , Dravyaguna vigyan, part-3, 83.*Chakramarda*. Chaukhamba Publications- Delhi, Ed, 2009, 603-604.
13. Acharya Priyavat Sharma, Dravyagunavigyana. 2, Dwitiya adhaya, 79. *Chakramarda*. Chaukhamba Bharti Academy, Varanasi, 186-188, 2013.
14. Cassia Tora LINN. An overview, Harshal P Pawar, Priscilla MD. Mello, International Journal Of Pharmaceutical Sciences And Research, (IJPSR), 2011, 2(9).
15. Priyavrat Sharma, Guru prasad Sharma, Kaidev Nighantu; 196.Aushadhvarga; 130; Chaukhambha Orientalia, Varanasi, 2019.
16. PV Sharma, Guru prasad Sharma, Dhanvantari Nighantu, Karviradi chaturthavarga,2. *Chakramarda*, Chaukhambha Orientalia,Varanasi, 2008, 121-122.
17. Dyanendra Pandeya ,Madanpal Nighantu, Abhayadivarga, Pratham adhyaya, Chaukhamba Orientaila, Varanasi, 2012, 153-155.
18. Bappalal G, Vaidya Aadarsh Nighantu; 42. Putikaranjyadi varga, 176. *Chakramarda*, Chaukhambha Bharatiya Academy, Varanasi, Ed, 2018, 470-472.
19. Dr. Indradev Tripathi, Raj Nighantu, Shatavyadivarga, Chaukhambha Krishnadas Academy, Varanasi, ed, 2010, 102-103.
20. Acharya Priyavat Sharma, Dravyagunavigyana 2, Dwitiya adhaya, 79. *Chakramarda* 186-188, Chaukhamba Bharti Academy,Varanasi, 2013.
21. Vaidya VM. Gogte; Ayurvedic Pharmacology and Therapeutics Uses of Medicinal plants , Dravyaguna vigyan, part-3, 83.*Chakramarda* pg.no. Chaukhamba Publications- Delhi, Ed, 2009, 603-604.
22. Cassia Tora LINN. An overview, Harshal P Pawar, Priscilla MD. Mello, International Journal of Pharmaceutical Sciences And Research,(IJPSR), 2011, 2(9).
23. Cassia tora. its chemistry, medicinal uses and Pharmacology; Manjusha Choudhary, Yuvraj Gulia, Nitesh; Pharmacologyonline. 2011; 3:78-96.
24. Patil S, Patil D. Ethonomedicinal plant of Dhule District, Maharashtra. Natural product radiance. 2007; 6(2):148-151.
25. Mishra B. Bhavprakash Nighantu of Bhavmishra. 11th ed. Part I. Ghritvarga adhyay, 18/4-6. Chaukhamba publication: Varanasi; p 110.
26. Sharma PV. Charaka Samhita. Sutrasthan.13/13. Chaukhamba Orientalia: Varanasi, 2009, 121.
27. Gupta A. Ashtangahridayam, 1st ed. Sutrasthan. 5/39. Chaukhamba Orientalia: Varanasi, 2010, 74
28. Aneja R. *et al.*, Technology of Indian milk products, Dairy India publication. Section 3.4: Fat rich dairy
29. Cassia tora: its chemistry, medicinal uses and pharmacology; Manjusha Choudhary, Yuvraj Gulia, Nitesh; Pharmacologyonline. 2011; 3:78-96.