

## REVIEW OF ANTISPASMODIC HERBAL DRUGS

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## ABSTRACT

Numbers of drugs have been utilized for the treatment of various diseases and disorders including menstrual cycle disorders, Gastrointestinal diseases, etc. spasms in GI diseases and menstrual cycle disorders are most common complaints that normally affects large proportion of population. Drugs with antispasmodic effects are normally applied for the symptomatic treatment of contraction and cramping of smooth muscles in gastrointestinal diseases as well as in other critical clinical situations. In alternative system of medicines, the antispasmodic herbs plays a significant role in the cure of GI diseases and other diseases. These medicinal plants and their herbal products are used from ancient times because of multiple therapeutic benefits. The multiple uses might be due to the presence of biologically active chemical constituents. The main aim of this review is to focus on the medicinal potential of plants possessing antispasmodic activities with their proposed mechanism of action. Several databases such as Ancient texts, Google Scholar, Scopus, and PubMed were used to search the relevant literature regarding "plants with antispasmodic activities." This present study highlights the updated medicinal plants with antispasmodic activity like *Helicteres isora*, *Rubia cordifolia*, *Cuminum cyminum*, *Cassia fistula*.

**KEYWORDS:** Antispasmodic activity, *Helicteres isora*, *Rubia cordifolia*, *Cuminum cyminum*.

## INTRODUCTION

Antispasmodic activity is the ability of a substance to relieve muscle spasm and tension in the smooth muscle of hollow organ and the muscle skeletal system. Pain is the part of a defensive reaction against dysfunction of an organ or imbalance in its function against potentially dangerous stimulus. Most of the pain relieving chemicals produced pronounced side effects on the physiology of the body. Herbal drugs mentioned in samhitas shows effective results in pain management. Drugs like *helicteres isora*, *rubia cordifolia*, *Cuminum cyminum*. Shows effective result in muscle spasm.

## Aim

To review the antispasmodic activity of herbal drugs.

## Objective

To study the chemical composition of herbal drugs.

## MATERIALS AND METHODS

- ❖ The Ancient literature of Ayurveda
- ❖ articles published in reputed medical journals
- ❖ Medicinal database available on internet

## Review of herbal drugs

❖ *Helicteres isora*<sup>[1]</sup>

Fruits of *Helicteres isora* Linn., commonly called Murudsheng in India, are usually prescribed in the Indian traditional systems of medicine, especially in Ayurveda, for a variety of intestinal complaints.

The antispasmodic activity of *helicteres isora* was checked in-vitro on guinea-pig ileum against three spasmogens, acetylcholine, histamine and barium chloride. The IC(50) for each was determined. The activity was compared with standard antispasmodic agents, atropine and diphenhydramine hydrochloride. The activity was also studied in-vivo by observing the gastrointestinal motility in mice using the marker technique and the ED(50) was calculated. Acute toxicity studies were conducted on mice using the method of Weil and the LD(50) was determined. The results indicated that the fruits possess very good antispasmodic activity.<sup>[1]</sup>

आवर्तनी सिग्धशीता कषाया त्वतिसारनुत् ।

त्रिदोषोदरशूलास्रकृमिरोगविनाशिनी ।।

### ❖ *Cuminum cyminum*<sup>[4,3]</sup>

*Cuminum cyminum* belonging to the family Apiaceae, are one of the earliest cultivated herbs in Asia, Africa and Europe. Cumin seeds from *Cu. cyminum* have remained popular as culinary spices and are also overwhelmingly used in folklore therapy since antiquity in diverse geographical areas. The aromatic substances present in these herbs have attracted enormous attention of researchers worldwide to experimentally validate the therapeutic uses of *cuminum* which are documented in several indigenous healing systems.

This review attempts to highlight the recent investigations in which diverse pharmacodynamic actions of cumin overwhelmingly support their acclaimed medicinal attributes in traditional medicines. The chemical composition of *Cuminum cyminum* (cumin) that may contribute to its antispasmodic activity includes: Cuminaldehyde,  $\alpha$ -Cymene,  $\beta$ - Pinene,  $\alpha$ -Terpinen-7-ol,  $\gamma$ -Terpinene are the major component in the essential oil.

जीरकं कटुकं रुक्षं वातकृद्दीपनं परम् ।  
गुल्माधानातिसारघ्नं ग्रहणीकृमिहत् परम् ॥ ध. नि.  
तीक्ष्णोष्णं कटुकं पाके रुच्यं पित्ताग्निवर्धनम् ।  
कटु श्लेष्मानिलहरं गन्धाढ्यं जीरकद्वयम् ॥ सु.  
जीरकस्य कृतः कल्को घृतसैन्धवसंयुतः ।  
सुखोष्णो वृश्चिकार्त्ताणां सुखलेपो व्यथापहः ॥ च. द

### ❖ *Rubia cordifolia*<sup>[2]</sup>

*Rubia cordifolia* Linn belonging to family Rubiaceae is well known ayurvedic herb popularly known as Indian madder (English), majit (hindi), manjishtha.

Different classes of compounds were isolated from *Rubia cordifolia* L. (Rubiaceae) such as anthraquinones, naphthoquinones, bicyclic hexapeptides, terpenes and carbohydrates.

Anti-proliferative and antioxidant activities are reported for *R. cordifolia* L., used in Chinese Traditional Medicine for relieving the symptoms due to endometriosis, such as menstrual abdominal pain, post-menstrual abdominal pain, lumbosacral pain, and bearing-down pain and distention in inferior belly.

Very few report on analytical approaches for this plant are available in literature. In 2007 a paper focused on the analysis of anthraquinones was published by Mishchenko et al. In 2014 a rapid, simple and specific RPHPLC method has been developed for the quantitative determination of alizarin in the methanolic extracts of roots and aerial parts of *R. cordifolia*. In a research work published in 2010 an attempt was made to establish systems of standardization of herbal supplements based on *R. cordifolia*.

मंजिष्ठा मधुरा तिक्ता कषाया स्वरवर्णकृत् ।  
गुरूरूष्णा विषश्लेष्मशोथयोन्यक्षिकर्णरूक् ।  
रक्तातिसारकुष्ठास्रवीसर्पत्रणमेहनुत् ॥ भा. प्र.  
मंजिष्ठामधुरा स्वादे कषायोष्णा गुरूस्तथा ।  
कफोग्रत्रणमेहास्रविषनेत्रामयाञ्जयेत् ॥ ध. नि.  
मंजिष्ठा कुष्ठवैस्वर्यशोथघ्नी मूत्रकृच्छ्रजित् । रा. व.  
मंजिष्ठाचन्दनकषायं मंजिष्ठामेहिनं पाययेत् । सु. चि. ११

### ❖ *Cassia fistula*

*Cassia fistula* also shows antispasmodic activity. animal study is done on Guinea pig<sup>[10]</sup>

आरग्वधो राजवृक्षः शम्याकश्चतुरंगुलः ।  
आरेवतो व्याधिघातः कृतमालः सुवर्णकः ॥  
कर्णिकारो दीर्घफलः स्वर्णाङ्गः स्वर्णभूषणः ।  
आरग्वधो गुरुः स्वादुः शीतलः संसनो मृदुः ॥  
ज्वरहृद्रोगपित्तास्रवातोदावर्तशूलनुत् ।  
तत्फलं संसनं रुच्यं कोष्ठपित्तकफापहम् ॥

### CONCLUSIONS

- ❖ It might be concluded on the basis of obtained information that the spasmodic pain can be treated by traditional natural medicines.
- ❖ Medicines which are effective, safe, and eco-friendly.
- ❖ The detailed literature analysis of medicinal plants could be the rich source of antispasmodic compound and opened up new areas for researchers and scholars in this field.

ज्वरे तु सततं पथं कोष्ठशुद्धिकरं परम् । भा. प्र.

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