

Review Article

Digestive Disorders and Electrohomeopathy Approach

Abstract

This particular review discusses the basic fundamentals of Electrohomeopathy medicine and its clinical finding related to in functional gastrointestinal diseases (FGID). Though functional gastrointestinal diseases (FGID) are complex group of disorders which affect all parts of gastrointestinal system, this remedy corrects the pathogenesis of multiple symptoms from multi factorial causes. Each remedy of Electrohomeopathy medicine consists of complexly spagyric essence intermixed with a variable proportions of multiple bioactive constituents of medicinal plants. Therefore the information intended as a starting line to keep up the Electrohomeopathy remedies for FGID which are rationally combined with multiple compounds. It s established an evident based therapeutic option for FGID. This review article, therefore, summarizes the basic knowledge of Electrohomeopathy medicines used in selected functional gastrointestinal disorders (FGIDs) and correlates them with the constituents of medicinal plants. Therefore, the information presented here is intended as a starting point to support the claim that FGID is one of the most important indications in Electrohomeopathy and rationally combined herbal extraction are established evidence-based therapeutic options. The abstract is concluded with that the Electrohomeopathy treatment of gastrointestinal disorders is found promising with reliable scientific evidence.

Key words: Electrohomeopathy, Functional gastrointestinal disorder, Dyspepsia, IBS

1. INTRODUCTION

Gastrointestinal (GI) disorders are estimated to be frequent among general population and the worldwide prevalence of gastrointestinal diseases is about 40% [1]. Various types of traditional and complementary therapies can be used for prevention and treatment of many diseases and conditions, including GI complaints. It appears that the use of various Traditional complementary medicines are prevalent among patients with GI diseases [2]. Some of these include Acupuncture, Ayurveda, Homeopathy, Siddha, Unani, Chinese, Phytotherapy, Nutraceuticals, and many others including Electrohomeopathy. Electrohomeopathy medicines are widely accepted and used by the local practitioners to treat structural as well as the functional gastrointestinal diseases. But this review mainly focus on the functional gastrointestinal diseases (FGID) which are being treated by Electrohomeopathy medicines. This review also focusing on the different plants used in Electrohomeopathy medicines responsible for their curative action in gastrointestinal disorders.

1.1 Electrohomeopathy medical system.

Electrohomeopathy is a plant spagyric based complementary medical trend, which was introduced in 1865 by an Italian plant scientist Count Cesare Mattie. The principle of this

medical system is that when the disease of an individual is multi factorial and complex in nature, disease can be healed by the use of complex remedies only. So Count Cesare Mattie acclaimed the principle of healing in Electrohomeopathy system of medicine is “Complexia Complexes Curantor” [3]. In this system complex plant spagyric has proven more effective in multi targeted diseases with organs and systems. In this medical system, spagyric essence is prepared from medicinal plants by using cohobation process. All total 114 medicinal plants are used for the treatment of different diseases [4. 5]. C.C. Mattie distributed all 114 plant medicines in the individual group lean basing on their curative properties and designated as Scrofoloso, Canceroso, Angiotico, Fabrifugo, Vermifugo, Venereo, Limphatico, Pettorale and a series of Electricities [6]. All remedies can be determined by its sub categories of parent group like S-1, S-2, S-3..... and so on and one can have skill to treat diseases based on these classification. The vital symptoms and basic identification of Constituents / Temperaments are required to justify the illness of disease. It has been made its way through a series of research and trials into a evident based medicine. Here the founder Count Cesier Matte nodded works with complexes of symptoms, where a common complex or in combinations can effectuate a change in physiological characters.

2. METHODOLOGY

In the initial phase, an extensive literature search was accomplished in the following databases: Google Scholar, Science Direct, PubMed Central, Elsevier, Springer Link and many others. The keyword used was the role of medicinal plants in Gastrointestinal disorder. Plants used in Electrohomeopathy etc. All the hits secured when searching the database using the above search criteria were assembled, and repeated articles were deleted. The articles were scrutinized by reading the full text for the following information: Phytochemical properties, pharmacological properties, and ethno- pharmacological data of above medicinal plants on FGID. In the final step, to obtain more data, a manual search was performed using the reference list of the included articles.

3. Role of specific group of Electrohomeopathy medical system for treating digestive disorders.

Among all groups of the Electrohomeopathy medical system, the Scrofoloso group (Table - 1) and the Vermifugo group (Table -2) play a vital role in treating FGID.. The active constituents of plants in Scrofoloso group and Vermifugo group have specific action on individual organs and the whole GI system as well. The different plants individually as well as collectively exert their action on GI system to treat structural as well functional disorder of GI system.

Table: 1. Spagyric essence of different plants used in Scrofolus group (S-1 to S11) with specific parts.

Sl. No,	Components	S-1	S-2	S-3	S-5	S-6	S-10	S-11	S11
1.	Cochlearia officinale	10 part	05 part	25 part	25 part	05 part	10 part	10 part	-

2.	Hydrastis canadensis	10 part	15 part	10 part	20 part	15 part	10 Part	30 part	-
3.	Scrophularia nodosa	10 part	25 part	20 part	20 part	20 part	20 part	10 part	-
4.	Smilax medica	10 part	15 part	15 part	05 part	20 Part	10 part	05 part	-
5.	Tussilago farefara	10 part	10 part	5 part	05 part	05 part	10 part	05	-
6.	Veronica officinalis	10 part	10 part	5 part	20 part	10 part	10 part	05 part	-
7.	Matricaria chamomilla	10 part	10 part	25 part	10 part	10 part	-	10 part	-
8.	Nasturtium officinalis	10 part	25 part	-	05 part	25 part	10 part	05 part	-
9.	Strychnos nuxvomica	10 Part	-	-	-	-	-	-	-
10	Lycopodium	-	15 part	-	-	-	-	-	-
11	Rheum	-	-	5 part	-	-	-	-	-
12	Berberis vulgaris	-	-	-	20 part	-	10 part	-	-
13	Solidago virgaurea	-	-	-	-	20 part	-	-	-
14	Aesculus hippocastanum	-	-	-	-	-	10 part	-	-
15	Cetraria islandica	-	-	-	-	-	10 part	-	-
16	Cinchona calisaya	-	-	-	-	-	20 part	-	-
17	Cinchona succirubra	-	-	-	-	-	10 part	-	-
18	Erythrea centaurium	-	-	-	-	-	20 part	-	-
19	Salix alba	-	-	-	-	-	20 part	-	-
20	Sambucus nigra	-	-	-	-	-	10 part	-	-
21	Mellissa officinalis	-	-	-	-	-	-	30 part	-
22	Lobelia inflata	-	-	-	-	-	-	05 part	-
23	Gentiana lutea	-	-	-	-	-	-	-	10 part
24	Aloes capensis	-	-	-	-	-	-	-	20 part

Table: 2. Spagyric essence of different plants used in Vermifugo group with specific parts.

Sl. No.	Components	VER-1	VER-2
1.	Allium sativum	30 part	30 part
2.	Chenopodium anthelminthicum	05 part	20 part
3.	Ruta gaveloens	20 part	10 part
4.	Dictamnus albus	20 part	-
5.	Thymus serpyllum	20 part	-
6.	Imperatoria osthrutium	20 part	-
7.	Euphorobium officinalale	05 part	-
8.	Artimisia cina	-	30 part
9.	Spigelia anthelmia	-	20 part
10	Tanacetum vulgare	-	20 part

4. Role of Electrohomeo therapy in functional gastrointestinal disorders (FGID).

Digestive disorders or gastrointestinal disorders including Functional gastrointestinal disorders (FGIDs) are a group of diseases with different combinations of chronic gastrointestinal (GI) symptoms which are usually recurrent and are not explained by structural or biochemical abnormalities. FGIDs diseases includes gastroesophageal reflux disease (GERD), functional dyspepsia (FD), irritable bowel syndrome (IBS), constipation, abdominal pain, diarrhoea, acidity and heartburn etc [7].

4.1. Role of Electrohomeo therapy Scrofoloso-1(S-1), Scrofoloso-2(S-2), Scrofoloso-10(S-10) in Gastroesophageal reflux disease (GERD).

GERD is a chronic disease that takes place when gastric acid or bile flows into the esophagus and irritates the lining. Acid reflux and heartburn more than twice a week may indicate GERD. It has been proved that the plant Hydrastis can, Strychnos nux vomica and Lycopodium are highly efficient to treat GERD [8, 9, and 10]. Similarly Cinchona is used as an appetizer, promoting the release of gastric juices; and treating bloating, fullness, and other stomach problems [11, 12]. Usually the local Electrohomeo practitioners use the Electrohomeopathy medicine S1, or S2 or S10 for the treatment of GERD. As Hydrastis Canadensis is a constituent of all S1, S2 and S10 medicines, the use of aforesaid medicines for the treatment of GERD is quite rational. Moreover the Strychnos nuxvomica and Lycopodium are the constituent of S1 and S2 respectively. Along with Hydrastis the Nuxvomica for S1 and Lycopodium for S2 multiplies the action for their corresponding group for the treatment of GERD. Cinchona is used for increasing appetite; promoting the release of digestive juices; and treating bloating, fullness, and other stomach problems. Cinchona is an important constituent of S10. So it is quite justified to use S1, S2 and S10 individually or combinable for the treatment of GERD.

4.2. Role of Electrohomeo therapy Scrofoloso-1(S-1) and Scrofoloso-10(S-10) in functional dyspepsia.

Functional Dyspepsia (FD) is a gastro-intestinal disorder causing diverse symptoms such as abdomen fullness, bloating and nausea in upper abdomen [13]. In past years, herbal treatments in general and for FD in particular have received satisfactory result. To treat FD

symptoms, various herbal medicines have been examined. Most of the medicines obtained this way are the rational combinations of several plants from studies of traditional medicine in different countries [14]. *Nux vomica*, and *Cinchona* are widely used to treat functional dyspepsia [15, 16]. The local electrohomeopathic practitioners use S1, S2, and S10 for the treatment of dyspepsia. As GERD is the principle cause of dyspepsia, so the treatment by S1, and S10 for dyspepsia. As both group contain *Nux vomica* and *Cinchona* the use is quite justified.

4.3 Role of Electrohomeo therapy SLASS and S-11 in Irritable bowel syndrome (IBS).

Irritable Bowel Syndrome (IBS) is a chronic digestive disorder, which is characterized by abdominal pain, bloating, diarrhoea and constipation [17]. Herbal plant Aloe leaves contain a transparent gel which is most commonly used as a curative effect. [18]. *Melissa officinalis* is another plant that is quite effective for the management of IBS. [19], As per Electrohomeo therapy for IBS is concerned, SLASS is the primary remedy as it contains Aloe. S-11 also used to counter nausea and vomiting tendency IBS as it contain *Melissa officinalis*. Thus the use of SLASS for the treatment of IBS is justified.

4.4 Role of Electrohomeo therapy SLASS in constipation.

Constipation is characterized by a variety of bowel symptoms such as difficulty passing stool, hard stool, and a feeling of incomplete evacuation [20]. Herbal medicines are frequently used to treat constipation since long time [21]. The herbal medicine aloe has tremendous effect on constipation [22]. Another herbal medicine *Gentiana lutea* also quite popular for the treatment of constipation [23]. Electrohomeopathy medicine SLASS is quite specific to treat constipation. As SLASS contain both Aloe and *Gentiana* as their principal constituent, so it is quite justified for the practitioners to treat constipation by SLASS.

4.5 Role of Electrohomeo therapy Scrofoloso-3(S-3) in Diarrhoea.

The United Nations Children's Fund and World Health Organization (UNICEF/WHO, 2009) defined diarrhoea as having loose or watery stools at least three times per day or more frequently than normal for an individual. [24]. The wide variety of plants that are used to treat diarrhoea in this area supports the traditional value that medicinal plants have in the primary health care system. [25]. The herbal plant *Matricaria chamomilla* is quite effective for diarrhoea treatment [26]. Electrohomeopathy medicine S3 has specific affinity for diarrheal cure. As S-3 contains *Matricaria chamomilla*. The use of it is justified in the treatment of diarrhoea.

4.6 Role of Electrohomeo therapy Scrofoloso-11(S-11) in vomiting.

The contractions of stomach muscle walls result in a large amount of stomach contents pushing upward and flow back into the esophagus, exiting through the mouth and termed as vomiting [27]. The types of herbs used to prevent and treat nausea and vomiting were ginger, chamomile, mint, omegranate, and cardamom. [28]. Herbal medicine *Melissa officinalis* has been proved for the treatment of nausea and vomiting [29]. Another herbal plant *Lobelia inflata* (Indian tobacco) contains lobeline and other pyridine alkaloids and has

been used as an emetic [30]. In Electrohomeopathy, S-11 is often given to treat nausea and vomiting. As S-11 contains *Mellissa officinalis* and *lobelia*, the use as antiemetic is justified.

4.7 Role of Electrohomeo therapy Vermifugo-19 (VER-1) and Vermifugo-2 (VER-2) in Helminthiasis.

The parasitic worms or helminthes that sustain on a living host to get nourishment and protection, while causing poor nutrient absorption, weakness and disease in the host. The worms live in the gastrointestinal tract, liver and other organs [31]. The use of medicinal plants for the prevention and treatment of gastro-intestinal parasitism has its origin in ethnoveterinary medicine [32]. *Chenopodium anthelminthicum*, *Dictamnus albus*, *Artemisia cina* and *Spigelia anthelmia* are the potential herbs which possess antihelminthic activity [33 - 36]. Electrohomeopathy medicine VER-1 and VER-2 are given for the treatment of helminthiasis. As VER-1 and VER-2 contains above said plants it is justified to use VER-1 and VER-2 as antihelminthic therapy.

4.8 Role of Electrohomeo therapy Scrofoloso-5(S-5) in liver disease.

Hepatic disease or liver disease is the disease that negatively affects the normal, proper performance of the liver. Herbal medicines have been used in the treatment of liver diseases for a long time [37]. *Berberis vulgaris* is a potent plant that possesses hepatoprotective activity [38]. In Electrohomeopathy S-5 is given as liver remedy. As this medicine contains *Berberis vulgaris*, the use is justified. Moreover the hepatoprotective activity of Electrohomeopathic drug S-5 is already proved [39].

4.9 Role of Electrohomeo therapy Cancerous -15 (C-15) in Peptic ulcer.

Peptic ulcers or gastric ulcers are open sores that develop on the inside lining of the stomach and the upper portion of your small intestine. Several reports have demonstrated that plant medicines can effectively treat peptic ulcer in humans and various animal models *via* divergent mechanisms [40]. The effective treatment of peptic ulcer by Electrohomeopathy C-15 is already proved [41].

4.10 Role of Electrohomeo therapy Scrofoloso-10 (S-10) in Haemorrhoids.

Haemorrhoids or piles is often considered as one of the common gastrointestinal diseases with a high preponderance. [42] Haemorrhoids are swollen veins in the lower part of the anus and rectum. When the walls of these vessels stretch, they become irritated. Herbal medicines are very much effective for treatment of haemorrhoids. *Aesculus hippocastanum* (horse chestnut) has been used for centuries as a treatment for dysentery, bronchitis, hemorrhoids, and venous problems in folk medicine [43]. The extract of this *Aesculus hippocastanum* is found to contain an excellent enzyme, namely aescin is known to show anti-inflammatory properties which can be used in curing the problem of piles [44]. Electrohomeopathy medicine S-10 is widely used for treatment of haemorrhoids. As S-10 contains *Aesculus*, the therapy for haemorrhoid is justified.

5.1 Possible mechanism of action of plants in the Electrohomeopathy Scrofoloso group in Gastrointestinal disorder.

Cochlearia officinale is a prominent constituent of almost all Scrofoloso series and plays an important role for treatment of several gastrointestinal disorders. cochlearine and myrosin are two important constituents which act as gastro protective against several diseases [45]. Berberine and Hydrastin are prominent phytoconstituents of *hydrastis* have curative potential in gastrointestinal disorder and gastroesophageal reflux disease [46]. The saponin and flavonoids of *Scrophularia nodosa* possesses a good antispasmodic effect which is found useful in abdominal pain [47]. The phytoconstituents of *Smilax medica* contain Steroidal Saponins which have good antifungal activity and protect GI tract from any possible fungal infection [48]. The pyrrolizidine alkaloids Senecionine and senkirkinine are potent phyto constituents of *Tussilago farefara* exhibit prominent gastro and respiratory protective activity. [49] *Veronica officinalis* contain Verproside which is famous for stomach and intestine disorder. Traditionally used *Veronica officinalis* inhibits proinflammatory mediators via the NF- κ B signalling pathway [50]. The phyto constituents of *Matricaria chamomilla* are Sesquiterpenes, flavonoids, coumarins, and polyacetylenes which are responsible for the biological effect like antispasmodic, and hepatoprotective. [51]. The alkaloids, flavonoids, saponins and terpenoids of *Nasturtium officinalis* collectively exhibits Hepatoprotective activity. [52]. *Strychnos nuxvomica* contain Strychninine and Brucine which are used for dyspepsia and other GI disorders [53]. The lycopodine, lycoflexine exhibits hepatoprotective activity of lycopodium. [54]. *Rheum* contains anthraquinone which shows purgative/cathartic, stomachic activity [55] *Berberis vulgaris* contains berberine, berbamine which exhibit its efficacy as choleric, laxative, anti- diarrhoeal, anti-hepatitis. [56]. *Solidago virgaurea* contain terpenoids, phenolic acids and quercetin which are responsible for hepatoprotective and antihemorrhoid activity [57]. Quercetin and kaempferol are the active constituents of *Aesculus hippocastanum* which is useful for constipation and haemorrhoid [58]. *Cetraria islandica* contain *Cinchona calisaya* and *Cinchona succirubra* quinine, quinidine, cinchonine, cinchonidine, quinic acid which is used as to treat anorexia, bloating and other digestive problems [59]. *Erythraea centaurium* contain gentiopicroside used as gastroprotective [60]. *Salix alba* contain salicin used in many gastrointestinal disorders [61]. The active constituent of *Sambucus nigra* is anthocyanins help to solve various gastrointestinal disorders [62]. *Melissa officinalis* contain quercitrin, rhamnocitrin, luteolin used for dyspepsia [63]. *Lobelia* contain Lobeline, Obelacrin, chelidonic acid used as gastroprotective [64]. *Gentiana lutea* contain secoiridoid which is a bitter tonic in gastrointestinal ailments for improving the digestive system [65]. *Aloe capensis* contain Barbaloin, aloe-emodin which act as laxatives. [66].

5.2 Possible mechanism of action of plants in the Electrohomeopathy Vermifugo group in Gastrointestinal disorder.

Allium sativum contains Allicin which is used in indigestion [67]. Ascaridol is a chemical constitute of *Chenopodium anthelminthicum* which has potent antihelminth activity [68]. *Ruta graveolens* contain Rutin which has anti-inflammatory activity and is used in painful gastrointestinal irritation [69]. *Dictamnus albus* possesses quinoline alkaloids and limonoids

which are used for digestive tract disorders including cramps, stomach problems, and worms in the intestines [70]. *Thymus serpyllum* contains thymol and carvacol which have the antioxidative and antimicrobial properties [71]. *Imperatoria osthrutium* contain Caffeoylquinic acid which is used for the treatment of indigestion. It reduces the symptoms of intense pain, flatulence and intestinal gas [72]. *Artemisia cina* contains santonin which has anthelmintic activities. [73]. *Spigelia anthelmia* contains anthraquinone which has potent anthelmintic activities. [74].

6. DISCUSSION : Combining Herbal Substances in a Rational Background

As a general rule, the action of a single herb does not usually meet the requirements for the treatment of a complex condition, such as functional dyspepsia or irritable bowel syndrome. Typically, combinations of, for example, aromatic and bitter substances are used, often with components from other groups [75, 76]. The combination of herbal preparations is a typical feature because of multi-drug – multi-target effects. A combined herbal preparation can be better suited to the medicinal needs and pharmaceutical preconditions of use than a preparation from any one of the single plants [77–79]. The textbook of Rudolf Fritz Weiss, one of the foundations of rational phytotherapy in Germany, advises to combine herbal preparations. It attributes different roles to the blend partners, such as the classification as basic, adjuvant, aromatizing, and stabilizing constituents. Additionally, Weiss stressed the importance that all components of a combination have a similar direction of action as the basic component. This advice was originally directed to the composition of herbal teas, but was also used in combining herbal tinctures in a strategic manner. Electrohmeopathy medicines are combinations of herbal substances in a rational manner. The different herbs in a specified group exhibit their property individually and are also combinable to give some synergistic effect. As per the treatment for Functional gastrointestinal disorder is concerned, the medicinal plants of Scrofoloso group and Vermifugo group possess are highly potential to treat almost all kinds of FGID. The phytoconstituents of medicinal plants used in above groups are highly effective and safe which has been already proved. [Table -3 &4]

Table: 3. Chemical constituent of different plants used in Scrofoloso group.

Name	Phytochemical constituents	pharmacological activity
<i>Cochlearia officinale</i>	Cochlearine and myrosin.	Gastroprotective
<i>Hydrastis canadensis</i>	Berberine, hydrastine, palmatine, canadine, hydrastinine	Gastrointestinal inflammatory disorders, gastroesophageal reflux disease
<i>Scrophularia nodosa</i>	Saponins, cardioactive glycosides, flavonoids, resin, sugar and organic acids	Spasmolytic Antihemorrhoid
<i>Smilax medica</i>	Steroidal Saponins	Anti fungal activity
<i>Tussilago farefara</i>	Sesquiterpenes, phenolic acids, flavonoids, chromones, pyrrolizidine	Gastro and Respiratory protective

	alkaloids(Senecionine senkirkine,)	
<i>Veronica officinalis</i>	Verproside	Stomach and intestine disorder
<i>Matricaria chamomilla</i>	Sesquiterpenes, flavonoids, coumarins, and polyacetylenes	Anti spasmotic, Gastrointestinal disorder, Hepatoprotective
<i>Nasturtium officinalis</i>	Alkaloids, flavonoids, saponins, terpenoids/steroids, protein, essential and volatile oils, glycosides, tannins, folic acid, vitamins	Hepatoprotective
<i>Strychnos nuxvomica</i>	Strychninine Brucine Isostrychnine Novacine	Dyspepsia
<i>Lycopodium</i>	Huperzine, lycopodine, lycoflexine, Alpha-onocerin and sporopollenin	Hepatoprotective activity
<i>Rheum</i>	Anthraquinones	purgative/cathartic, stomachic
<i>Berberis vulgaris</i>	Berberine, berbamine	Choleretic, laxative, Antidiarrheal, anti-hepatitis
<i>Solidago virgaurea</i>	Terpenoids, saponins, phenolic acids, quercetin, kaempferol,	Hepatoprotective and Antihemorrhoid
<i>Aesculus hippocastanum</i>	Triterpenoids, saponins, flavonoids, coumarins, carotenoids	Constipation Antihemorrhoid
<i>Cinchona calisaya</i>	Quinine, quinidine, cinchonine, cinchonidine, quinic acid	Appetizer, bloating
<i>Cinchona succirubra</i>	Quinine, Quinidine Cinchonine, cinchonidine	Appetizer, bloating
<i>Erythraea centaurium</i>	Gentiopicroside	Gastro protective
<i>Salix alba</i>	salicin	Gastro protective
<i>Sambucus nigra</i>	Antioxidant status	Gastro protective
<i>Melissa officinalis</i>	Volatile compounds, triterpenoids, phenolic acids and flavonoids	Antispasmodic
<i>Lobelia inflata</i>	Lobeline, Obelacrin chelidonic acid	Gastro protective
<i>Gentiana lutea</i>	Secoiridoid	Bitter tonic in gastrointestinal ailments for improving the digestive system.
<i>Aloe capensis</i>	Barbaloin, aloe-	Laxatives

	emodin-9 anthrone, Isobarbaloin, Anthrone-C-glycosides	
--	--	--

Table: 4. Chemical constituent of different plants used in Vermifugo group .

Name	Phytochemical constituents	Phytochemical constituent	pharmacological activity
1.	Allium sativum	Allicin	Indigestion
2.	Chenopodium anthelminthicum	Chenopodiaceae,	Anthelmintic
3.	Ruta gaveloens	Rutin	Anti-inflammatory Painful gastrointestinal irritation Anthelmintic
4.	Dictamnus albus	Quinoline alkaloids and limonoids	Digestive tract disorders including cramps, stomach problems, and worms in the intestines
5.	Thymus serpyllum	Thymol and carvacol	The antioxidative and antimicrobial properties
6.	Imperatoria ostruthium	Caffeoylquinic acid Phenolic acids Flavonoids Coumarins	Antioxidant and anti-inflammatory activities
7.	Euphorobium officinalale	Scopoletin, scoparone, isoscoletin, quercetin	Digestive disorder
8.	Artemisia cina	Terpenoid santonin	anthelmintic activities
9.	Spigelia anthelmia	Alkaloids Saponin Flavonoid Tannin Phenolics Anthraquinone	Anthelmintic efficacy
10	Tanacetum vulgare	Phenolic acids, flavonoids, terpenoids and fatty acid	Antioxidant

7. CONCLUSION

Electrohomeo therapy has always been an important part in the treatment of gastrointestinal diseases, especially FGID. Medicinal plants can be composed according to their principal bioactive constituents and their target of action. Though medicinal plant extraction are always have its huge complexity, variability and interactions between bioactive compounds, the potential benefits from multiple plant extracted spagyrics derive pharmacological effects by synergistic interactions of many phytoconstituents. This grants not only their use as individual-herb preparations, but also as combinations. Combining herbs can guide to optimize targeting of the therapeutic indication, and hence to better treatment. In conclusion, this review summarizes the current knowledge on the medicinal property and therapeutic action of medicinal plant constituents used in Electrohomeopathy and opens a discussion on their possible use in justified cases as an alternate equivalent substitute for synthetic preparations and other medical systems.

NOTE:

The study highlights the efficacy of "Ayurved" which is an ancient tradition, used in some parts of India. This ancient concept should be carefully evaluated in the light of modern medical science and can be utilized partially if found suitable.

REFERENCES

1. Czigle S, Fialová S.B, Tóth, J, Mučaji P, Nagy M. Treatment of Gastrointestinal Disorders—Plants and Potential Mechanisms of Action of Their Constituents. *Molecules*. 2022 May; 27(9): 2881.
2. Jiande D. Z. Chen, Jieyun Y, Xiaohua H, and Toku T. Complementary and Alternative Therapies for Functional Gastrointestinal Diseases 2016. *Evid Bas Compl Alt Med*. 2017; 2017: 2089165.
3. Sureshbabu P, Siddalingamurty E, Sasidhara NL, Sooryanarayanarao B, Bhavya DC. A Review on Electrohomeiopathic medicinal practice: Original, principles, medicinal plants used and its current status in India. *Eur J Med Plants*. 2020; 31(8):31-47.
4. Dixit SK, Pragasam A. Some important plants used in electro-homeopathhic system of medicines. *Int. J Plant Sci*. 2006; 1(2):162-164.
5. Kundu Debasis. Cohobation in Spagyric or Electro Homeopathy. *Int J Hom and Nat Med*. 2017; 3(3):31-34.
6. Giddon APJ. "Stepping stones to electrohomeopathy." *Count Mattie's system of medicine*, 3rd edition, Count Matties remedies Depot, London, 1892
7. Kim Y Sm Kim J W, Ha NY, Kim J and Ryu1 H S. Herbal Therapies in Functional Gastrointestinal Disorders: A Narrative Review and Clinical Implication. *Front. Psychiatry*. 2020. Sec. Psychological Therapy and Psychosomatics . <https://doi.org/10.3389/fpsy.2020.00601>

8. Mandala S K, Majib A.K, Mishra S K, Mohammad P etal. Goldenseal (*Hydrastis canadensis* L.) and its active constituents: A critical review of their efficacy and toxicological issues. *Pharmacological Research*. 2020; 160: 105085.
9. Patel K, Laloo D, Singh GK, Gadewar M, Patel DK. A review on medicinal uses, analytical techniques and pharmacological activities of *Strychnos nux-vomica* Linn.: A concise report. *Chinese Journal of Integrative Medicine*, 24 Jan 2017,
- 10 Karmakar R, Biswas S J A better understanding of pharmacological activities and uses of phytochemicals of *Lycopodium clavatum*: A review *J of Pharmacog and Phytochem* 2014; 3 (1): 207-210.
11. Raza M A , Fazal UR Rehman F U R, Anwar S , Zahra A etal. The Medicinal and Aromatic Activities Of *Cinchona*: A Review *Asian J of Adv in Res* 8(2): 42-45, 2021
12. Hariyanti H, Mauludin R , Sumirtapura Y C , Kurniati N F. A Review: Pharmacological Activities of Quinoline Alkaloid of *Cinchona* sp. *Biointerface Res in App Chem*. 2023;13, (4): 319.
13. Babaeian M, Naseri M, Kamalinejad M, Ghaffari F, Emadi E etal, Herbal Remedies for Functional Dyspepsia and Traditional Iranian Medicine Perspective. *Iran Red Crescent Med J*. 2015 Nov; 17(11): e20741.
14. Monkemuller K, Malfertheiner P. Drug treatment of functional dyspepsia. *World J Gastroenterol*.2006;12(17):2694–700
15. J. E. Nichols, Selections—*Nux Vomica* in Dyspepsia *Ga Med Companion*. 1872 Dec; 2(12): 722–725.
16. Dr J. Thompson Coon, Herbal medicinal products for non-ulcer dyspepsia. *Alimentary pharmacology and therapeutics*. <https://doi.org/10.1046/j.1365-2036.2002.01339>
17. Lekha Saha. Irritable bowel syndrome: Pathogenesis, diagnosis, treatment, and evidence-based medicine. *World J Gas*. 2014 ; 20(22): 6759–6773.
18. Grindlay D, Reynolds T. The Aloe vera phenomenon: a review of the properties and modern uses of the leaf parenchyma gel. *J Ethnopharmacol*. 1986;16(2–3):117–51. doi: 10.1016/0378-8741(86)90085-1.
19. Bahrami HR, Hamed S, Salari R, and Noras M. Herbal Medicines for the Management of Irritable Bowel Syndrome: A Systematic Review. *Electron Physician*. 2016; 8(8): 2719–2725
20. Iizuka N and Hamamoto Y, Constipation and herbal medicine. *Front Pharmacol*. 2015; 6: 73.
21. Ravindra B, Kiran P, Kolkar P K, Acharya M, Raju K. Etal. CONSTIPATION-A MAJOR HEALTH DISORDER: ROLE OF HERBAL MEDICINE TREATMENT, *Int J of Innov Scic Res. and Rev*. 2022;4, (4), pp.2634-2645.
22. Shebi S and Preetha S Effects of aloe vera on constipation , *International Journal of Current Advanced Research* Volume 6 ; Issue 4 ; 2017; Page No. 3300 – 3302.

23. Mirzaee F, Hosseini A, Jouybari HB, Davoodi A, a and Azadbakhta M. Medicinal, biological and phytochemical properties of *Gentiana* species. *J Tradit Comp Med*. 2017 ; 7(4): 400–408.
24. Alfred Maroyi. TREATMENT OF DIARRHOEA USING TRADITIONAL MEDICINES: CONTEMPORARY RESEARCH IN SOUTH AFRICA AND ZIMBABWE. *Afr J Tradit Complement Altern Med*. 2016; 13(6): 5–10.
25. Wet HD , Nkwanyana MN, Vuuren SF . Medicinal plants used for the treatment of diarrhoea in northern Maputaland, KwaZulu-Natal Province, South Africa. *J Ethnopharmacol* . 2010 Jul 20;130(2):284-9.
26. Mehmood MH , Munir S , Khalid UA , Asrar M. , Gilani AH. Antidiarrhoeal, antisecretory and antispasmodic activities of *Matricaria chamomilla* are mediated predominantly through K(+)-channels activation. *BMC Complement Altern Med* . . 2015 Mar 24;15:75 .
27. Mohsenzadeh A , Ahmadipour S Rahmani P Shakarami P. Concise Review: Herbal remedies for the treatment of nausea and vomiting. *Vietnamese Journal for Medical Biotechnology and Medicine Incorporating*. *Adv in Regen Med*. 2018; 5 (5) 2252-2259.
28. Ahmadi and Yazdandoust: Use of medicinal herbs in the treatment of nausea and vomiting in pregnancy: A systematic review. Ahmadi and Yazdandoust: Use of medicinal herbs in the treatment of nausea and vomiting in pregnancy: A systematic review. *J of Adv Pharm Eduon & Res*. 2020;10:(1).
29. Darvishpor S, Hosseini A, Davoodi A, Salehifar E. A Review on Medicinal Plants used for Nausea and Vomiting. *Glob J of Med Res*. 2018; 18 (1).
30. <https://www.sciencedirect.com/topics/pharmacology-toxicology-and-pharmaceutical-science/lobelia-inflata>.
31. Mahesh Bandappa M, Shashikant M, Jamkhande. PG. Helminthiasis and medicinal plants: a review. *Asian Pacific J of Tropical Disease*. 2015; 5:(3), 175-180.
32. Athanasiadou S, Githiori J, Kyriazakis I . Medicinal plants for helminth parasite control: facts and fiction. *Animal* . 2007 Oct;1(9):1392-400.
33. Jabbar A , Zaman M A, Iqbal Z, Yaseen M, Shamim A. Anthelmintic activity of *Chenopodium album* (L) and *Caesalpinia crista* (L) against trichostrongylid nematodes of sheep . *J Ethnopharmacol* . 2007 Oct 8;114(1):86-91.
34. Mengying LV, Ping XX Yuan T, Jingyu L, Medicinal uses, phytochemistry and pharmacology of the genus *Dictamnus* (Rutaceae) June 2015 *J of Ethnopharmacology*. 2015(16)171.
35. Sakipova Z, Giorno S, Bekezhanova T, etal. Pharmacological Evaluation of *Artemisia cina* Crude CO₂ Subcritical Extract after the Removal of Santonin by Means of High Speed Countercurrent Chromatography. *Molecules*. 2020; 25(12): 2728

36. Awotedu OL, Ogunbamowo PO. Evaluation of pharmacognostic and phytochemical profile of *Spigelia anthelmia* linn leaves. *Modern Phytomorphology* . 2019;13: 41–46 .
37. Dhiman RK, Chawla YK. Herbal medicines for liver diseases *Dig Dis Sci* 2005 ; 50(10) : 1807-12.
38. Tahmasebi M , Sadeghi H, Nazem H, Kokhdan EP, and Omidifar N Hepatoprotective effects of *Berberis vulgaris* leaf extract on carbon tetrachloride-induced hepatotoxicity in rats. *J Educ Health Promot.* 2018; 7: 147.
39. Babu PS, Krishna V, Singh A, Babu R , Pradeep VK. Evaluation of Acute Toxicity and Hepatoprotective Activity of *Scrofoloso - 5 (S5)* and *Livome*, Electro Homoeopathic Herbal Preparations against CCl₄ Induced Liver Tox. *Eur J of Med Plants.* 2015; 5(3):220-228021.
40. Bi WP, Man HB, and Man MQ. Efficacy and safety of herbal medicines in treating gastric ulcer: A review. *World J Gastroenterol.* 2014 ; 20(45): 17020–17028.
41. Sabat PK. Antiulcer activity of Ectrohomeopathic drug (spagyric essence) Cancerous 15 - 3rd dilution against Indomethacin-induced gastric ulcer in rats. *Asian J Pharm Clin Res, Vol 13, Issue 2, 2020, 1-4*
42. Hashempur MH, Khademi F, Rahmanifard M, and Zarshenas MM, An Evidence-Based Study on Medicinal Plants for Hemorrhoids in Medieval Persia. *J Evid Based Complementary Altern Med.* 2017 Oct; 22(4): 969–981.
43. Gökçe Şeker Karatoprak, in *Nonvitamin and Nonmineral Nutritional Supplements, 2019* .
<https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/aesculus-hippocastanum>
44. Chauhan R, Ruby KM, Dwivedi J. Golden Herbs used in Piles Treatment: A Concise Report *Int. J. Drug Dev. & Res.* 2012; 4(4): 50-68.
45. https://en.wikipedia.org/wiki/Cochlearia_officinalis
46. Kumar S, Amal M, Majib K, Siddhartha Kumar Mishra SK. etal. Goldenseal (*Hydrastis canadensis* L.) and its active constituents: A critical review of their efficacy and toxicological issues *Pharmacological Research* 2020; 160, :105085.
47. Tobyn G, Denham A, Whitelegg CHAPTER 28 - *Scrophularia nodosa*, figwort *Medical Herbs* 2011, Pages 297-306.
48. Sautour M , Miyamoto T, and Dubois L Steroidal Saponins from *Smilax medica* and Their Antifungal Activity *J. Nat. Prod.* 2005; 68: (10). 1489–1493.
49. Chen S, Dong , Quan HL, Zhou X, etal. A review of the ethnobotanical value, phytochemistry, pharmacology, toxicity and quality control of *Tussilago farfara* L. (coltsfoot). *J Ethnopharma col.* 2021; 267: 113478.
50. Gründemanna C, Aufera MG, Barbara Sauera B etal. *Rom Hub J of Ethnopharmacology* 2013 ; 145(1): 118-126.

51. Singh O, Zakiya Khanam Z, Misra N, and Srivastava MK. Chamomile (*Matricaria chamomilla* L.): An overview *Pharmacogn Rev.* 2011; 5(9): 82–95.
52. Ali Esmail and Al-Snafi. A review on *Nasturtium officinale*: A potential medicinal plant *IOSR. JI Of Pharm* 2020; 10 : (9). 33-43
53. Patel K, Laloo D, Singh GK, Gadewar M, Patel DK. A review on medicinal uses, analytical techniques and pharmacological activities of *Strychnos nux-vomica* Linn.: A concise report. *Chinese J of Integrative Med.* ; 2017, DOI: 10.1007/s11655-016-2514-1
54. Jhilik Banerjee, Sunipa Biswas, Nithar Ranjan Madhu, Susanta Roy Karmakar, Surjyo Jyoti Biswas A better understanding of pharmacological activities and uses of phytochemicals of *Lycopodium clavatum*: A review *Journal of Pharmacognosy and Phytochemistry* 2014; 3 (1): 207-210
55. Zargar BA, Masoodi MH, Ahmed B, and Ganie SA. Phytoconstituents and therapeutic uses of *Rheum emodi* wall. ex Meissn. *Food Chem.* 2011 ; 128(3): 585–589.
56. Tabeshpour J, Imenshahidi M, and Hosseinzadeh H. A review of the effects of *Berberis vulgaris* and its major component, berberine, in metabolic syndrome. *Iran J Basic Med Sci.* 2017 ; 20(5): 557–568.
57. Fursenco C, Calalb T, Uncu L, Dinu M, and Ancuceanu R. *Solidago virgaurea* L.: A Review of Its Ethnomedicinal Uses, Phytochemistry, and Pharmacological Activities. *Biomolecules.* 2020 Dec; 10(12): 1619.
58. Sarikurkcü C, Locatelli M, Tartaglia A, Ferrone V et al. Enzyme and Biological Activities of the Water Extracts from the Plants *Aesculus hippocastanum*, *Olea europaea* and *Hypericum perforatum* That Are Used as Folk Remedies in Turkey. *Molecules.* 2020; 25(5): 1202.
59. Adele Muraier and Markus Ganzera. Quantitative determination of major alkaloids in *Cinchona* bark by Supercritical Fluid Chromatography *J Chromatogr A.* 2018 1554: 117–122.
60. Aquino R, Behar I, Garzarella P, Dini A, Pizza C. Chemical composition and biological properties of *Erythraea centaurium* Rafn. *Boll Soc Ital Biol Sper* . 1985;61(2):165-9.
61. Maistro EL, Terrazzas PM, Perazzo FF et al. *Salix alba* (white willow) medicinal plant presents genotoxic effects in human cultured leukocytes . *J Toxicol Environ Health A* . 2019;82(23-24):1223-1234.
62. Młynarczyk K, Tomczak, DW and Łysiak GP. . Bioactive properties of *Sambucus nigra* L. as a functional ingredient for food and pharmaceutical industry. *J Funct Foods.* 2018; 40: 377–390.
63. Shakeri A, Sahebkar A, Javadi B. *Melissa officinalis* L.– A review of its traditional uses, phytochemistry and pharmacology. *Journal of Ethnopharmacology* 2016;188.

64. Joshi, S, Mishra D, Bisht G, and Khetwal SK. Essential oil composition and antimicrobial activity of *Lobelia pyramidalis* Wall. EXCI J. 2011; 10: 274–279.
65. Mirzaee F, Hosseini A, Jouybari HB, Davoodi A, and Azadbakht M. Medicinal, biological and phytochemical properties of *Gentiana* species. J Tradit Complement Med. 2017 Oct; 7(4): 400–408.
66. Surjushe A, Vasani R, and Saple. DG. ALOE VERA: A SHORT REVIEW. Indian J Dermatol. 2008; 53(4): 163–166.
67. Aye E, Alpsy HC. Garlic (*Allium sativum*) and traditional medicine Turkiye Parazit Derg. 2007; 31(2): 145–9.
68. Ernest baldwin. A study of anthelmintic potency in relation to chemical constitution. Brit. J. Pharmacol. ;1948: (3): 91.
69. GIRESHA A. S., ANITHA M. G., DHARMAPPA K. K. PHYTOCHEMICAL COMPOSITION, ANTIOXIDANT AND IN-VITRO ANTI-INFLAMMATORY ACTIVITY OF ETHANOL EXTRACT OF *RUTA GRAVEOLENS* L. LEAVES. Int J Pharm Pharm Sci, Vol 7, Issue 10, 272-276.
70. Arslan R, Ozturk Y, Aydin S. Pharmacological and Toxicological Effects of Gas Plant (*Dictamnus Albus* L.). Turkish Journal of Pharmaceutical Sciences. 2005; 2(3):
71. Jarić S, Mitrović M, Pavlović P. Review of Ethnobotanical, Phytochemical, and Pharmacological Study of *Thymus serpyllum* L Evid Based Complement Alternat Med. 2015; 2015: 101978
72. Danna C, Bazzicalupo M, Ingegneri M, Smeriglio A et al. Anti-Inflammatory and Wound Healing Properties of Leaf and Rhizome Extracts from the Medicinal Plant *Peucedanum ostruthium* (L.) W. D. J. Koch Molecules. 2022 ; 27(13): 4271.
73. Woerdenbag H.J., De Smet P.A.G.M., Scheffer J.J.C. *Artemisia Cina*. In: De Smet P.A.G.M., Keller K., Hansel R., Chandler R.F., editors. Adverse Effects of Herbal Drugs. Volume 3. Springer; Berlin/Heidelberg, Germany: 1997. pp. 15–20.
74. Jegede OC, Ajanusi JO, Ambrose. O, AO et al. Anthelmintic efficacy of extracts of *Spigelia anthelmia* Linn on experimental *Nippostrongylus braziliensis* in rats J Vet Sci. 2006 Sep; 7(3): 229–232.
75. Butler A, Keating R: Old herbal remedies and modern combination therapy. Scott Med J 2011; 56: 170–173.
76. Yarnell E: Synergy in herbal medicines: part 1. J Restor Med 2015; 4: 60–73.
77. Wagner H: Synergy research: a new approach to evaluating the efficacy of herbal mono-drug extracts and their combinations. Nat Prod Commun 2009; 4: 303–304.
78. Gilbert B, Alves LF: Synergy in plant medicines. Curr Med Chem 2003; 10: 13–20.
79. Sherbakova A, Ulrich-Merzenich G, Kelber O, Abdel-Aziz H: Combining plant extracts resulting in the elimination of undesired mode of action. BMC Complement Altern Med 2017; 17:P146.