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A REVIEW ON SYNERGISTIC AND HORMETIC ACTION OF *SWERTIA CHIRATA* FROM HOMOEOPATHIC PERSPECTIVE

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ABSTRACT

One of the traditional herbs, which provide potent therapeutic beneficiary action for the mankind, is Swertia chirata. It contains organically active compounds and leads chemical constituents, which support in the healing process and in turn abates the unnecessary therapeutic aids. The methods of administration varies to the therapeutic benefit being practiced, apart from this an immediate attention is necessary for the homeopathic mode of medicine preparation, where the synergistic and hermetic principles are followed in the dynamicity principle of homeopathy, where the medicine is being made more potent and the total synergistic action is being preserved toxic free. The review is to provide evidence based knowledge on the synergistic action, as well as dynamic action of swertia chirata from a homeopathic perspective

KEYWORDS: Swertia Chirata, Hormesis, Dynamic, Ultra-Dilute, Phytochemical, & Homoeopathy

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Original Article

INTRODUCTION

Swertia chirata is one of the indigenous traditional herbal medicines, seen at high altitudes of temperate Himalayan regions, with multipotent therapeutic use in the Indian pharmaceutical codex, the British and the American pharmacopoeias and in different traditional systems of medicines, such as the Ayurveda, Unani and Siddha [6], and other conventional medical systems. This ethno botanical herb is inherited with various biological active compounds, which in turn can help in the welfare of the human economy. As the speed of a message to be sent, the non-communicable diseases as well as numerous infections are emerging in this era. The primary health care centers are panicking, to prevent the spread of dangerous diseases having the capability of wiping out the health of humans. This traditional herb, which can provide a commercialization in health with the help of its phytochemical constituents, when given in dynamic doses of homeopathy the applicability of the medicine, will be remarkable in modern therapeutic and preventive medicine. Despite the fact, a comprehensive review is lacking, regarding the evidence of synergistic and dynamic action from the homeopathic perspective, this work attempts to elaborate on it.

MATERIALS & METHOD

The present investigation regarding the traditional herb, *Swertia chirata* was looking into various search engines like *Google*, *Google scholar*, *Dhara portal* and many information's were extracted from *Pubmed*. The key terms used in the search are: *swertia chirata, Gentiana chirata*. The results regarding the herb were collected, in

accordance with the clinical trial and discussion. The custom range given were late years, the results obtained were sorted manually and selected. The data have been compiled from 1970 onwards.

Evaluation of *Swertia Chirata*

Medicinal plants always had its potential, to cure different diseases in their decoctions, infusions or herbal formulations. As in depth, scientific evaluation done as the chemical analysis method is developed, to determine the herbal medicinal properties, which help in therapeutics. Likewise, the plant *swertia chirata* demands greater focus in this era, due to its wide range of use in traditional medicine [9]. The medicine traditionally used for chronic fever, malaria, anemia, bronchial asthma, hepatotoxic disorders, liver disorders, hepatitis, gastritis, constipation, dyspepsia, skin diseases, worms, epilepsy, ulcers, hypertension and certain mental disorders, diabetes and also recently found action in anti-hepatitis B virus and so on [23].

The plant has a wide range of clinical applications; they are being investigated through the phytochemical study, showing the various chemical constituents which mainly contains xanthines, iridoids and secoiridoids, triterpenoids, flavonoids, lignans, alkaloids and volatile constituents. [1] The flavoring compounds/biologically active constituents of the drug include: Amarogentin, swertiamarin [8], mangiferin, swerchirin, sweroside, amaroswerin, gentianine, oleanolic acid, ursolic acid, swertanone, syringaresinol, bellidifolia, isobelle folin, chiratol, 1-hydroxy-3,5,8-trimethoxy xanthone, 1-hydroxy-3,7,8-trimethoxy xanthone, 1,5,8-trihydroxy-3-methoxy xanthone, gentiopicrin, and beta- amyrin [18,20]. Through these bioactive compounds this plant shows its synergistic action in the welfare of human economy, without any toxic effect even in its extract forms. The previous researches exhibit its wide range biological activities [9,6,13] with its isolated chemical constituents:

Table 1: Relation of Biological Activity of Swertia Chirata and the Isolated Chemical Compounds

BIOACTIVITY	CHEMICAL CONSTITUENT
Antiviral [22]	Mangiferin
Anticancer [13,17,20,21]	Amarogentin
Anti inflammatory [5,17]	Xanthones
Antidiabetic [20,13]	Swerchirin, mangiferin, amarogentin
Dyslipidemia [13,28]	Mangiferin, Amarogentin
Antihepatotoxic [7,11,15,20]	Swercherin
Antibacterial [20] and anti fungal	Sweroside, beta- amyrin
Antioxidant activities [7]	Mangiferin, oleanolic acid
Antileishmanial [18,20,21]	Amarogentin
Anthelmintic [12,14]	Amarogeentin, amaroswerin, sweeroside
Antimalarial [2] and anti-hepatitis B virus [28]	Gentianine
Antipyretic [16]	Alkaloids, flavonoids
CNS [3,20]	Xanthones, swertiamarin

Along with the activities, the researchers have also illustrated its toxicity test, which had shown negative results. Eventhough, there are studies showing non lethality, at the same time there are also studies focusing the herb with depressant activity and gastric derangement [24]. The whole plant is used in many of the studies. The orchestrated chemical compounds of *swertia chirata,* resurge the therapeutical world, where the drug can supervene in the modern therapeutic method, with the help of homeopathic principles in its directional dose.

The synergistic action in plant extract with its isolated chemical constituents constitutes the potential source of therapeutics in *Swertia chirata*. There are evidences and claims, that the plant extracts have superior effects over single isolated constituents and these various biological active compounds are retained in ultra-dilute solutions [25].

Recent studies also state that, the pathogenesis of many diseases like diabetes, liver diseases, cancer are having related to the maintenance of physiological and immunological functions [18]. The principles of homeopathy, deals with the immunity [19] of the human individual, this plant *swertia chirata* [10] can be beneficially flourish in its dynamic dose with the synergistic action. As per homeopathic pharmacopoeia of India [4] advised the use of *swertia chirata* in it. Hermetic [26, 27] form can successfully play its remarkable role in human health welfare.

CONCLUSIONS

Among the many drugs prevailing, *Swertia chirata* demands special attention in its synergistic application in human health. In spite of its traditional use, the plant have been thoroughly investigated in chemical, biotechnological, pharmacological, and phytochemical studies, scientifically explored and validated the therapeutic potential. Eventhough, the herb has its own toxicity with the ultra diluted dosage, it can be minimized which can build in therapeutic usage and as a preventive medicine. However, in depth scientific evaluation is still in need in homeopathic dynamic dose. The studies so far has given enough evidence, to bring forth the biological action of *Swertia chirata,* these definitely points towards the new lead molecules for the further development of this traditional drug, having welfare motive biological activities.

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