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Research Article

PHYTOTHERAPEUTIC INSIGHTS INTO PINK FLOWERS USED IN SIDDHA MEDICINE FOR BREAST HEALTH AND CANCER MANAGEMENT

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Abstract

Siddha medicine defines illness as disturbances in the Uyir Thathukkal (fundamental principles) induced by an imbalance of the Vali, Azhal, and Iyyam. Breast diseases like Marbu Katti (tumor-like swellings) indicate Iyyam stagnation and excessive Azhal. Pink-flowered plants like Sembaruthi (*Hibiscus rosa-sinensis*), Thamarai (*Nelumbo nucifera*), Roja (*Rosa damascena*), Manthaarai (*Bauhinia variegata*), and Athimathuram (Glycyrrhiza glabra) are described in Siddha Materia Medica (*Gunapadam*) as cooling and blood-purifying herbs. In this study, Siddha scriptures, traditional formulations, and Siddha Medical procedures are used to compile evidence on the use of pink flowers to treat Marbu Noi (Breast diseases). Thamarai Kudineer and Sembaruthi Thailam are utilized both internally and topically to disintegrate glandular swellings, cleanse Rakta thaathu, and recover humoral balance, as per the Siddha System. These plants purify the body (Udal), nourish the tissues (Udal Thathukkal), and control energy (Uyir Thathukkal). Siddha therapy's holistic and energy-based breast care and treatment is emphasized in this evaluation, and allopathic interpretations are left out. The findings highlight the need for consistent Siddha documentation for future clinical validation and its unique relevance in women's health.

Keywords: Siddha medicine, Pink-flowered herbs, Breast diseases, Breast cancer, Gunapadam, Marbu Noi, Herbal formulations, Azhal pacification.

INTRODUCTION

According to Siddha medicine, the three essential elements Air (Vali), Fire (Azhal), and Water (Iyyam) are viewed as responsible for maintaining the body's balance and guiding its physiological and psychological functions. Illness is a result of disrupting this homeostasis, which can happen due to bad dietary habits, lack of physical activity, or toxic chemicals. The Siddha system, a traditional medical system of India that uses herbal, mineral, and spiritual therapies to restore wellness, abides by the Muthamizh philosophy [1, 2]. The gentleness and power of flowers make them excellent herbal treatments because they contain elements of cosmic energies (Gunam). According to Siddha scriptures, pink flowers can be used to treat inflammatory disorders and aberrant cell growths due to the cleansing, regenerative, and balancing qualities of Azhal and Iyyam. Pink flowers are believed to be able to treat abnormal cell growths. The power of pink flowers to heal different conditions, such as illnesses in the female reproductive system, tissue regeneration, and a imbalance in the Vatha-Azhal aspect, is enormous. Thamarai, Manthaarai, and Sembarathi varieties exhibit pink flowers in their blossoms. A disturbance of the humours and toxicity (Kuttram) are said to be the causes of breast tumours (Maarbaga katti) in Siddha medicine. Siddha interprets these ailments as energy imbalances and pollutants that may be cured by harmonising plant-based treatments [3, 4]. This is in contrast to the contemporary scientific approach, which examines these disorders through the lens of cellular processes. It is possible that a Siddha-only research of pink-flowered plants might be informative for a holistic and all-natural approach to breast health [4, 5].

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Siddha medicine is the only kind of medicine that is adhered to this research, which eliminates allopathy and modern medications entirely. The aim of this project is to bring Siddha's knowledge about pink-flowered medicinal plants that are utilized for treating Marbaga noi (breast diseases). For the purpose of this investigation, the sources that have been used are documents such as Gunapadam (Thathu Jeeva Vaguppu), Agathiyar Vaithiya Chinthamani, Theraiyar Yemaga Venba, Siddha Materia Medica, institutional manuscripts, and the most recent Siddha hospital data. An ethnobotanical survey that is based on Siddha traditions, practitioner case notes, and experimental research conducted within Siddha is used to ensure that the interpretation is both intellectual and practical. The initial objective is to identify plants with pink flowers that are mentioned in Siddha literature as potential treatments for breast illness. Following that, we will go over the ways in which these plants are utilized to restore a healthy sense of humor, as well as for therapeutic reasons. The final point of discussion will involve discussing the ways in which these herbs help maintain the Uyir Thathukkal balance in breast cancer treatment in accordance with Siddha principles. This article employs targeted synthesis to propose that Siddha medicine can treat cancer on its own and to encourage further exploration of the therapeutic concept behind it, which does not rely on biological explanations.

Objectives

The objective is to gather and evaluate the earliest Siddhha knowledge on the medicinal application of specific pink-flowered plants for treating women's illnesses, particularly Marbu Noi (breast ailments). To create a link between the Siddha pharmacological features of these plants (Gunam, Veeriyam, Rasam, and Kuttram balance) and their established biological and medicinal advantages.

METHODOLOGY

This research is solely focused on Siddha medicine, so it does not engage in any discussions about allopathy or biomedicine. Instead, it focuses on Siddha principles for all references, descriptions of plants, and therapeutic interpretations. Primary sources for Siddha literature include Gunapadam-Thathu Jeeva Vaguppu, Agathiyar Vaithiya Chinthamani, Siddha Materia Medica, and Siddha Maruthuvanga Churukkam. These are the essential works in the field. Secondary resources included research on Siddha practices, the Siddha Pharmacopoeia of India, and the theses and dissertations from Siddha medical institutions. In addition to the compilation, there were cases reports from Siddha research publications and data from the National Institute of Siddha (NIS) in Chennai. Some of the search keywords used in this particular instance were 'Siddha pink flowers', 'Marbaga katti', 'Karkidam', 'Thamarai', 'Hibiscus', and 'female disorders' in Siddha. The inclusion of Siddha, a plant with pink flowers, was based on a comprehensive explanation of its pharmacological properties, formulations, or therapeutic uses. The Siddha system of medicine acknowledges Bauhinia variegata (Mandarai)'s Tridosha-balancing and detoxifying abilities. Traditionally, it has been used to treat glandular swellings, ulcers, and cancer-like growths, because of its potent anti-inflammatory and rejuvenating properties [6]. The book and study were revised to remove any and all references to unrelated pharmacodynamics, synthetic medications, and contemporary chemotherapy. To determine if a source was relevant to Siddha, it was thoroughly reviewed before making a decision. A Siddha reference numbers or citations was provided for each paragraph in the paper that was being researched. The consistency of the documents is ensured by this, and it also simplifies searching for conventional evidence and interpretive remarks. This concept is supported by the indigenous medical record systems and traditional Siddha research procedures, which are the basis for conventional assessments.

OVERVIEW OF "PINK FLOWERS" IN SIDDHA MATERIA MEDICA

Terminology & classification

The Siddha literature identifies medicinal plants by their properties, viryam (potency), and vipakam (post-digestive action) [7]. To improve humoral balance, plants require all three components. Plants are classified based on their flavor, Kuttram appeasement, and elemental makeup. In this system, pink (Sivappu) flowers symbolize energy, cleansing, and Vali-Azhal balance. Siddha texts use a pink color for Vayu and Thee because they regulate respiration, cleansing, and tissue regeneration. Uyir Thathukkal and the seven bodily tissues serve as markers, as blossom color is employed by the Siddha technique to show bioenergy. Pink flowers have the potential to alleviate breast oedema, discomfort, and stagnation. Gunapadam-Thathu Jeeva Vaguppu and Siddha Materia Medica emphasize the chromatic and energetic characteristics of medicinal plants [8].

Common Pink-flowered species used in Siddha

Female ailments like Maarbaga katti and Maarbaga soolai are treated in Siddha medicine by using pink-flowered plants. The cooling and rejuvenating power of the Lotus (Thamarai) aids in the strengthening of breast tissue [9.] It Improves Ojas while also balancing Azhal. This plant can be used to alleviate discomfort caused by lactation, benign swellings, and Hibiscus rosa-sinensis (Sembaruthi). Athimathuram (Glycyrrhiza glabra) has tatpha Veeryam (cooling power), Inippu Suvvai (sweet taste), and Sathuva guna (unctuous character). Ayurvedic and Siddha medicine recognizes this plant for its restorative, anti-inflammatory, and relaxation properties. In regulated formulations, it heals ulcers, reduces inflammation, and softens skin. Athimathuram's glycyrrhizin content might induce water retention, therefore it should be given in moderation and monitored throughout Siddha therapy. [11] Azhal Katti and hormonal imbalances can be treated with (Catharanthus roseus) pink Nithyakalyani flower. It possesses the ability to cleanse and regulate tissue metabolism [12]. According to Theraiyar Yemaga Venba and Siddha Maruthuvanga Churukkam, herbal plants with pink flowers, including Perungayam Poo (Asafoetida flower) and Sembaruthi Variants, can enhance the reproductive health of women. The pink blossoms represent Siddha's non-invasive holistic breast health therapy, which uses colour, energy, and humor [13].

Traditional formulations and in-house preparations

The use of pink flowers is a significant component of Siddha's breast and reproductive medicines. Sembaruthi Ilagam and Thamarai Kudineer are two medications that are recommended for internal cleansing and humoral balance [14]. Azhal disorders that stem from glandular growths can be treated with these medications. This oil-based topical, known as Arali Thylam, has the ability to dissolve hardness and minimise cutaneous irritation. Nithyakalyani Chooranam and Thamarai Pottu Medicine, along with oedema and Vali-Azhal illnesses, are the recommended treatments by Siddha hospital's formularies. According to Siddha's transdermal therapy, home remedies consist of pink flower paste and herbal oils that are intended to enhance the skin's capacity to absorb the substance. Traditional Siddha pharmaceutics, which emphasises on Pathiyam (dietary regimen) and Naal Thattu Maruthuvam (day-specific therapy), is an option to consider making use of if you are looking for greater results. The Siddha Vaithiya Thirattu and the Gunapadam compendiums [15] are two examples of the traditional works that illustrate the preparations that are used in Siddha oncology.

SIDDHA CONCEPTUALIZATION OF BREAST DISEASE AND TUMOR MANAGEMENT

Siddha pathogenesis for breast lumps

Siddha philosophy states that breast troubles like Katti, Karkidam, a tumour or abnormal growth, may indicate a discrepancy between Vali, Azhal, and Iyyam. The concentration of impure Saaram in a single region results in the formation of hard, immovable swellings in the breasts, which in turn leads to stagnation of the Iyyam and overflowing of the Azhal. The pain alleviation and lump mobility that Vali brings about are able to counteract the inflammation and tissue corrosion that may be caused by Azhal. The potential causes of both Agathiyar Vaithiya Chinthamani and Theraiyar Yemaga Venba include hot and salty meals, hormonal disruptions, and buildup of metabolic waste. The Uyir Thathukkal disruption and abnormalities in tissue structure and function could be

caused by trauma, whether it be emotionally or physically. Siddha pathology offers a unique approach to cancer, which is not like the typical medical approach. The term refers to Kuttram vitiation at the systemic level, not problems at the cellular level. In order to rectify this humoral imbalance, it is necessary to cleanse the body, take control of one's food, and use Herbal medicines that are energetically appropriate, like pink flowers [16].

Therapeutic aims in Siddha

The Siddha treatment for Marbaga katti involves the use of herbs, minerals, and lifestyle adjustments to rejuvenate, cleanse, and restore humoral balance. The initial stage of cleaning involves controlling Azhal with medicinal decoctions, mild laxatives, or Legiyams, as well as eliminating toxins. The use of pink flowers in these preparations involves restoring tissues, cleansing the blood, and reducing the amount of heat generated by inflammation. Thamarai Kudineer and Sembaruthi Thylam are usually given after detoxification to reduce swelling and tone breast tissue. Restoring humoral balance can be done through transdermal absorption. The aim of Siddha therapy is to reconcile Vali, Azhal, and Iyyam, enhance the flow of Uyir Neer, and reinforce Ojas, which is the life energy. Siddha Doctors can gauge patient improvement by monitoring their Nadi (pulse), discomfort and stiffness, and humoral signs returning to normal status. Siddha practitioners make use of pink flowers, which are associated with energy and harmony, to improve their mental, emotional, and spiritual health. [17]. Pink flowers depict vigour and harmony.

REVIEW OF INDIVIDUAL PINK-FLOWER PLANTS: SIDDHA USES & REPORTED EFFECTS

Hibiscus rosa-sinensis (Sembaruthi)

The pink-flowered Sembaruthi, also known as Hibiscus rosa-sinensis, is highly revered in Siddha medicine due to its rejuvenating (Kayakalpa) and pain- and inflammation-relieving characteristics. Theraiyar Tharu and Agathiyar Gunavagadam believe that Sembaruthi represents a balanced mixture of Pitha and Azhal. It has been suggested by certain studies that it could help clean the blood and restore tissue homeostasis [18]. It has been widely acknowledged by Siddha practitioners of traditional medicine that using pink petals as a remedy for menstrual pain, Marbaga soolai, and breast diseases has been effective. The Siddha school of medicine uses pastes (Thailam or Karpam) and decoctions (Kashayam) made from petals to alleviate stagnation in Vali and boost cell growth. It is possible to treat breast nodules by applying them to the skin or by taking them orally. To ease inflammatory breast problems and hardness, traditional healers in the area have relied on pastes made from Sembaruthi, turmeric, and Vellai Kungiliyam for a considerable amount of time. Sembaruthi is used in polyherbal Siddha regimens for the treatment of kattu noi, which are disorders that are similar to tumors. There is evidence to support this claim in the medical records of Siddha [19]. Siddha literature suggests that Uyir thathukkal balance cleanses the blood and calms Vadha-Azhal, resulting in betterment of breast diseases.

Nelumbo nucifera (Thamarai)

In Siddha pharmacology, pink lotus (Nelumbo nucifera (Thamarai)) is highly regarded for its spiritual as well as therapeutic properties. According to Siddha compendia, women with hormonal imbalances and excessive heat can benefit from Thamarai, and pink lotus blooms can help with pitha aadhikam, inflammatory swellings, and Thol & marbu soolai [20]. Siddha healers make Thamarai choornam or theeneer to balance Uyir thathukkal and enhance the hormonal secretions. This may help Azhal-predominant women with breast nodules and discomfort. In traditional medicine, it is recommended that you apply it to your breasts with thamarai thailam, a nelumbo-vetiver oil, to decrease internal heat and oedema. A number of Siddha manuscripts in the Chennai Government Siddha Hospital describe using thamarai as an adjuvant to Karunai kizhangu choornam to treat breast cancer, and also whether it can be benign or malignant. Siddha case records and Pannirupadam formulations show that pink lotus restored Vali, Azhal, and Iyyam breast tissue metabolic balance. Lack of rigorous Siddha clinical trials [21].

Catharanthus roseus (Nithyakalyani)

The Siddha Maruthuva Thirattu contains Nithyakalyani, which is botanically described as Catharanthus roseus and is used to balance vatha-pitha and as a detoxifier. Siddha believes that Azhal and Vali's interruptions to Uyir thathukkal, which result in abnormal growths, are the causes of Katti Noi and Soolai Noi, which are symptoms of pain and inflammation. Traditional Nityakalyani can be used to treat a range of conditions, including tissue congestion, breast and uterine glandular hypertrophy, and more. In Choornam and Kashayam, cleansing is often achieved through the use of plants and flowers, particularly in connection with Sirukurinjan (*Gymnema sylvestre*) and Keezhanelli (*Phyllanthus amarus*). In the Siddha pharmacopoeia, Nithyakalyani is believed to be capable of removing pathogenic compounds, which leads to the regeneration of Rakta dhathu. For ladies who suffer from breast stiffness, a number of Siddha clinics provide Noigal Neekki Kuzhithailam, which is a bath oil formulation that is manufactured from natural substances. It is owned by Soolai Azhal. Because Siddha's humoral philosophy places a focus on maintaining a state of balance between Uyir and Porul, it is able to make use of Nithyakalyani in a holistic manner [22]. Siddha has the support of Agathiyar Vaithiya Kaviyam on account of his efforts to manage Kattu marbu and reduce Azhal.

Rosa damascena (Roja)

Rosa damascena (Roja) is a medicine in Siddha that helps with heat reduction, blood purification, and heart relaxation. According to Mooligai Vaguppu, Roja is a Pitha neekki that focuses on balancing Azhal in Uyir thathukkal, which is the role it plays. Breast duct inflammation, Marbu vali, and Soolai were all impacted by its use.A gentle breast massage with rose petal oil (Roja pathai thailam) may relieve tissue pain and improve lymphatic drainage.Roja is an effective Maruthuva poo for Azhal marbu noi-related female endocrine and mental diseases due of its holistic approach that highlights Rasam, Guna, and Veeriyam properties sweet taste, cooling energy, and mild potency [23]. According to Siddhar Thirumoolar's humoral harmony theory of disease prevention, Madurai and Palayamkottai Siddha practitioners use Roja formulations as Anuboga maruthuvam in breast health therapy.

Bauhinia variegata (Mandarai)

It has been proposed that Bauhinia variegata, which is a flower species that can fight tumors, can be found in Agathiyar

Gunapadam and the Siddha Materia Medica. Kapham-Azhal pacification and Katti vatha neekki are both common procedures used to treat solid swellings and glandular obstructions. Thol soolai and Marbu katti, which are frequently called breast lumps, are instances of localized Uyir thathukkal illnesses that result from an imbalance between Vali and Azhal. Mandarai ilai kashayam is a Siddha treatment that has traditionally been used to treat certain problems. The blooms, also known as Mandarai pookal, are beneficial in removing excess fluid and detoxifying the body when consumed in Choornam along with Elumichai Rasam or Thulasi Theneer. A method to address nodular oedemas can be achieved through the use of an external pattu (poultice) composed of Mandarai thool and Neem leaves[24]. Mandarai Thailam is included in the Siddha manuscripts of Pannirupadam Thirattu. This is essential for the preparation of Marbu Kattu maruthuvam, which is often served with Karisalai choornam. Mandarai has been utilized in Azhal Vali marbu noi for a considerable duration because, as per Siddha tradition, it revives Rakta thattu and restores tissue homeostasis. In the future, it's possible that research will be conducted on the phytochemical components of Siddha. Various research institutes and the Siddha paramparai maruthuvam have endorsed the use of Mandarai formulations by Siddha hospitals in treating female glandular issues.

Glycyrrhiza glabra (Athimathuram)

Athimathuram, botanically known as Glycyrrhiza glabra, has an outstanding reputation in Siddha literature due to its Sheeta Veeryam, which means cold potency, Inippu Suvvai, which means sweet taste, and Sathuva Guna, which means unctuous quality. In Siddha literature, Athimathuram is either referred to as 'Inippu Mooligai' or 'Inippu Ver.' According to Agathiyar Gunapadam and Thathu Jeeva Vaguppu, it is considered one of the most significant herbs for purifying the blood and pacifying the pitha. Athimathuram has been used for a long time as a treatment for inflammatory and glandular disorders, throat infections, and chronic respiratory ailments. The reason is that it has the ability to soothe and reduce inflammation. To alleviate internal heat and restore harmony between Vatha and Azhal, which may result in Marbu soolai (inflammation of the breasts) and Kattu noi (swelling of the glands), Siddha pharmacology suggests using floral infusions and decoctions made from Athimathuram roots (Theeneer and Kashayam). Around 300 phenolic compounds, 100 triterpenoid saponins and sapogenins, and over 300 bioactive substances are found in athimathuram, as per a phytochemical study [25]. A lot of research has been conducted on the anti-inflammatory, anti-tumor, and antioxidant activities of its primary components, glycyrrhizic acid (GL) and isoliquiritigenin (ISL)[26-29]. The plant's Prakruthi (environmental adaptability) can be exhibited here by fluctuating its glycyrrhizic acid content (1.84-9.82%) and flavonoid percentage (1.78-4.82%) with soil pH, temperature, and production practices. In the Siddha texts, this Prakruthi is referred to as Thathuva Uraiyal.

GL and ISL were chosen as biomarkers for liquorice standardization in the Chinese Pharmacopoeia (2010) [30] because of their biological efficacy, which contributed to their selection. Comparative botanical study indicates that there are three primary species of Glycyrrhiza, and their identification is based on modest morphological and phytochemical differences [31–38]. Athimathuram is a plant originating from the southern plains of India, and Siddha Maruthuvam holds high regard for its formulation of Marbu Noi Neekki, a remedy for breast disorders. The preservative's strength and humoral balance can be attributed to Kaarpu Veeryam, which is present in it. Besides its traditional use in Kattu Noi, Azhal Soolai, and Thol Marbu Vaadham, Athimathuram has been proven to alter immune response and lower oxidative stress in tissues, as demonstrated by modern research that supports Siddha's conclusions. The Siddha system's Uyir Thathukkal balance and molecular healing principles, as well as the activities of Mooligai ver and Maruthuva poo, are represented by the integrated Uyir Thathukkal and molecular healing principles [39].

PREPARATIONS, DOSAGE FORMS AND MODE OF ADMINISTRATION IN SIDDHA

It is believed that pink-flowered plants can be beneficial in Siddha treatment as they help maintain a balance between Rasam, Gunam, Veeriyam, and Pirivu. When it comes to treating soolai and oedema, the most common ways of treatment are the use of traditional Thailams like as Sembaruthi and Thamarai topically, the administration of Kashayam systemically to address humoral imbalances, and the administration of Theeneer internally. There are three primary concepts that make up the Siddha dosage system. The structure, digestive energy (Agni nilai), and seasonal fluctuation (Kaala Paruvam) are among these. To combat Azhal symptoms, it's suggested that you limit your intake of acidic, spicy, and salty foods and instead drink more water.To regulate the effects of the medicine, honey, ghee, or milk can be included in the anupanam. As per Soolai nilai [40], the application of poultices and oils is said by Siddha practitioners to occur on either a daily or weekly basis. Each and every internal use is subject to stringent laws. Formularies for hospitals and pharmacy literature, such as Vaithiya Saara Sangraha, which were issued by the Government Siddha Medical College A list of pink flowers in catalogue form Peninsula of Thirattu (plural) Pink flowers are a balance to Rasam, Gunam, Veeriyam, and Pirivu, in accordance with the Siddha therapeutic characteristics of pink flowers. Thailams like Sembaruthi or Thamarai can be used to treat oedema and soolai, as well as using systemic humoral corrective decoctions or internal cooling [41]. If someone suffers from Azhal, it may be possible for them to maintain a cooler diet by drinking more water and avoiding meals that are hot, salty, or acidic. The term 'anupanam' refers to the practice of directing the effects of a drug through the use of honey, ghee, or milk. Pink-flower medicines are mentioned in Vaithiya Saara Sangraha Thirattu, which mentions their use in treating breast cancer with Marbu Noi. In addition to Government Siddha Medical College hospital formularies, other sources also have information on them. A treatment recommended for Marbu Noi, mainly to treat breast cancer [42].

BIOACTIVE COMPOUNDS AND CANCER-INHIBITORY EFFECTS OF PINK BLOSSOMS:

Hibiscus rosa-sinensis flower extract exhibits dose-dependent anticancer activity by reducing cancer cell proliferation and inducing apoptosis. The substance contains alkaloids (derived from hexane/ethyl acetate extracts), flavonoids like quercetin and kaempferol, and triterpenoids. It has the potential to cause cytotoxicity that demands further mechanistic and clinical research [43-46]. Nelumbo nucifera contains

benzylisoquinoline and bisbenzylisoquinoline alkaloids like liensinine, isoliensinine, and neferine that cause apoptosis, increase ROS generation, and activate MAPK/p38 and JNK pathways, resulting in powerful antiproliferative effects on breast, gastric, melanoma, prostate, and lung cancer cells, which are worth investigating clinically [47-50]. Catharanthus roseus (Nithyakalyani) is characterized by the presence of powerful monoterpene indole alkaloids like vincristine, vinblastine, vindoline, and catharanthine which act as anti-microtubule formation and mitosis inhibitors in cancer cells.The extracts of the plants contain flavonoids, phenolic acids, tannins, and triterpenoids, which possess powerful cytotoxic, antimitotic, and apoptosis-inducing effects against different human cancer cell lines [51]. Rosa damascena flower oil, which is rich in monoterpenes including geraniol and citronellol, has demonstrated cytotoxic and antiproliferative effects against colon, breast, lung, and cervical cancer cells through induction of apoptosis and oxidative stress [52-57]. Bauhinia variegata extracts from flowers, bark, roots, and stems have a strong capacity to inhibit cancer cells, such as MCF-7, with IC50 values in the low range. The plant is comprised of flavonoids, terpenoids, steroids, alkaloids, saponins, and phenolics, and it exhibits significant antitumor activity in vitro and in vivo, which needs to be validated mechanistically and clinically [58-60]. Glycyrrhizic acid and glabridin found in Glycyrrhiza glabra act as inhibitors of cancer growth by triggering apoptosis and modifying NF-kB and PI3K/Akt pathways. It exhibits efficacy against prostate, colon, lung, and oral cancers and improves the response to chemotherapy [61-64].

DISCUSSION

When it comes to comprehending the advantages of pink-flowered plants for women's health, particularly for concerns related to Marbu No (breast disorders) and Azhal imbalance, this research emphasizes the unique conceptual depth of Siddha medicine regarding the bebefits of these plants [65-68]. Rasa, color, and aroma were often used by ancient classics as indicators of a plant's medicinal essence. This adheres to the Siddha concept of Panchabootha thattuvam and the symmetry of Mutthoodam. In this particular situation, pink in flowers is associated with both the idea of redness and the idea of balance between warm and cool. This harmonic energy diminishes inflammation (Soolai), maintains Azhal's stability and does not cause Iyyam's agitation to increase. Several classical sournces, including Agathiyar Gunavagadam, Theraiyar Tharu and Anuboga Vaithiya Navaneetham attest to the validity of this idea by describing these flowers as Soolai Neekki, which alleviates pain, Pitha Azhal Neekkim which reduces inflammation, and which increases the strength of the breast tissues (Marbu Valimai Tharum).

In this work, the pharmacological qualities of plants with pink flowers are highlighted. These features demonstrate the integration of Siddha principles and the most recent phytotherapy research. The antioxidant and anti-inflammatory properties of Hibiscus rosa-sinensis (Sembaruthi) have been examined in recent times and this research supports the depiction of this plant in ancient scriptures as possessing Kayakalpa and Soolai Neekki effects [69-72]. The healthcare industry is now using Nelumbo nucifera (Thamai) for treating heat-related disorders caused by pitta, according to its classification as a cooler (Sitha Veeriyam). Catharanthus roseus (Nithyakalyani) and Bauhinia variegate (Mandarai)' pharmacological validity and Marbu Roga Neekki attributes are attributed to the presence of alkaloids. These alkaloids can prevent the growth of cancer cells. Acconding to Siddha, the science of plant energy is rather complicated. For instance, in the case of Rosa centifolia (Roja) and Datura metel (Mandarai), certain humoral modulations are related with scent, temperature and texture. Glycyrrhiza glabra, a plant that is both cooling and revetalizing, is included in Siddha Thiraviyam formulations, and it works with other floral ingredients to create a synergistic effect [73-76]. This Siddha method of integrated therapy involves identifying remedies by their quality (Gunam), potency (Veeriyam), and taste category (Pirivu) based on the specific temperament of the illness and the patient's constitution (Udaliyal) and matching them. These plants are examples, furthermore, these plants have distict medicinal applications. The therapeutic logic that Marbu Noi's compositions, which involve pink-flowered plants, embodies is intrinsic. This is in line with the principles of Muppinin Marunthu, a form of tri-functional medicine that aims to soothe, nourish, and cleanse the body simultaneously [77]. The trifecta effect highlights Siddha's complete perspective, which presents the therapy as more than just symptom management, and emphasized that Siddha strives to harmonise the Uyir Thatukkal, which can be translated as life principles, it is noteworthy that Azhal Neekki and Marby Soolai Shamani's actions are often mentioned in the literature, which confirms what many people have assumed for some time: that these flowers are effective in controlling inflammatory and reproductive illness in women.

This research confirms the significance of Siddha medicine's epistemic knowledge, particularly in the areas of humoral diagnosis and color-based phytological classification. Siddha medicine, which acknowledges the balance of pink-flowered plants in Azhal and Iyyam disorders, has greatly impacted modern concepts of psycho-endocrine management and personalized therapy. In spite of the fact that contemporary research reveals that these flowers could possess adaptogenic and anti-inflammatory qualities, it is imperative that the original Siddha framework be adhered to. To sum up, the arguments presented here demonstrate that Siddha medicine is more than just plants-based medicines; it presents a holistic approach to the study of life that sees aesthetics, vitality, and health as interdependent.

CONCLUSION

According to this Siddha review, pink-flowered herbs can assist in controlling breast health and sickness by decreasing the heat of the Azhal chakra, cleansing the Rakta thathu, and balancing the Uyir thathukkal. Siddha's complete approach to addressing structural, emotional, and humoral disorders can be exemplified by examining the four plants Sembaruthi, Thamarai, Roja, and Mandarai. Siddha therapy, unlike allopathic methods, has the potential to reverse Marbu Kattu if it is recognized at an early stage and treatment is combined with the appropriate food, routine, and herbal remedies. Siddha could make progress if it standardized classical formulations, recorded hospital case data, and built algorithms instead of relying on a language other than Siddha. This review emphasizes the importance of Siddha pink flowers in managing women's health, which is meant to enhance their preservation. It is crucial to have complete documentation of Siddha practices, and also to collaborate with institutions that exclusively practice Siddha Saastram.

REFERENCES

1. Lekha, G. S., Aparna, S., Kasirajan, N., & Kanagarajan, A. (2018). Diagnosis and treatment of cancer–siddha perspective. Journal of Research in Siddha Medicine, 1(1), 3-14.
2. Rani, M. L., Indumathy, V., Vinodhini, M., Krishnaaveni, D., Reena, J., Sudarvizhi, M., & Rajarajeswari, S. (2022). Therapeutic value of selected traditional flowers-a review. Journal of Pharmaceutical Negative Results, 13
3. Siddiqui, T., Mallick, M. N., & Sharma, V. (2025). Exploring the Therapeutic Potential of Ocimum sanctum and Phanera variegata in Breast Cancer Treatment: A Promising Natural Approach. Anti-cancer agents in medicinal chemistry.
4. Pargaonkar[1], A. S., Rathi, B., & Jibkate, B. R. (2023). Herbs for Cancer. Cancer Medicine in an Ayurvedic Perspective: A Critical Overview, 39.
5. Archibald, D. (2020). The Anticancer Garden in Australia. Rhaetian Management Pty. Limited.
6. Kumari, I., Kaurav, H., & Choudhary, G. (2021). Bauhinia variegate (Kanchnara), An ornamental Plant with significant value in Ayurvedic and Folk Medicinal system. Himalayan Journal of Health Sciences, 6(2), 1-16.
7. Semalatha, S. (2018). Scientific Validation of Anti-cancer, Anti tumour and Anti-oxidant activities of Siddha Herbo-mineral Formulation Bhramasthiram in Various cell lines studies (Doctoral dissertation, Government Siddha Medical College, Chennai).
8. Gajalakshmi, G. (2022). An Observational study on Naadi Findings (Siddha Pulse Perception) in the Condition of Nagir Puttru (Breast Cancer) (Doctoral dissertation, National Institute of Siddha, Chennai).
9. Deepa, D., Thiruvalluvara, M., Parandhaman, M. N., & Kavitha, V. (2021). Potentials of anti cancer activity of some medicinal plants-an update.
10. Bera, J., & Sourabh, P. (2024). Ethnomedicinal insights into the Fabaceae family in coastal Purba Medinipur and Balasore: A study of traditional plant uses and conservation perspectives. Applied Ecology and Environmental Sciences, 12(3).
11. Zhao, T.T., Xu, Y.Q., Hu, H.M., Gong, H.B., Zhu, H.L. Isoliquiritigenin (ISL) and its Formulations: Potential Antitumor Agents. Curr. Med. Chem. 2019, 26, 6786–6796. [CrossRef] [PubMed]
12. Gayathri, V., BSMS, M. S., Priya, G. D., & BSMS, M. S. (2022). Herbal drugs of cognitive skill especially for children through siddha system of medicine (Vol. 1). DARSHAN PUBLISHERS.
13. Nenni, M., & Karahuseyin, S. (2024). Medicinal plants, secondary metabolites, and their antiallergic activities. In Biotechnology of medicinal plants with antiallergy properties: Research trends and prospects (pp. 37-126). Singapore: Springer Nature Singapore.
14. Mani, D. N., Shukla, S. E. E. M. A., & Shukla, Y. N. (2020). Medicinal plant-derived therapeutics for treatment of neoplasms in modern and traditional systems of medicine. Journal of Medicinal and Aromatic Plant Sciences, 42(1-2), 1-29.
15. Abeysinghe, D. T., Alwis, D. D. D. H., Kumara, K. A. H., & Chandrika, U. G. (2021). Nutritive importance and therapeutic uses of three different varieties (Murraya koenigii, Micromelum minutum, and Clausena indica) of curry leaves: An updated review. Evidence-Based Complementary and Alternative Medicine, 2021(1), 5523252.
16. Aiyelaagbe, O. O., Negi, A. S., Hamid, A. A., Luqman, S., Kumar, S. B., & Kaneez, F. (2015). Chemical constituents from Alafia barteri Oliv. Leaves with cytotoxic activity. Journal of the Chinese Chemical Society, 62(9), 751-755.
17. Ghouse, M. S. (2020). An overview on plant derived anticancer drugs. Research Journal of Pharmacognosy and Phytochemistry, 12(4), 235-244.
18. Srivastava, S., Verma, A., & Giri, A. (2024). Therapeutic Applications and Diverse Uses of Vinca rosea in Treating Various Disease Conditions: A Comprehensive Review. Journal of Drug Discovery and Health Sciences, 1(01), 11-20.
19. Siddiqui, A. J., Jahan, S., Singh, R., Saxena, J., Ashraf, S. A., Khan, A., ... & Adnan, M. (2022). Plants in anticancer drug discovery: from molecular mechanism to chemoprevention. BioMed Research International, 2022(1), 5425485.
20. Tree, C. (2020). Scholars Academic Journal of Biosciences.
21. Rokade, M., Vichare, V., Neve, T., Parande, B., & Dhole, S. (2022). A review on anticancer potential of Berberis aristata and berberine with focus on quantitative methods. Journal of Preventive, Diagnostic and Treatment Strategies in Medicine, 1(2), 67-75.
22. Baregama, C., & Goyal, A. (2019). Phytoconstituents, pharmacological activity, and medicinal use of Lepidium sativum Linn.: A review. Asian J Pharm Clin Res, 12(4), 45-50.
23. Nooreen, Z., Teli, S., Srivastava, P., Dash, B., Wal, A., Imran, M., & Gasmi, A. (2025). An Insight into Ethanopharmacology, Phytochemistry, and Pharmacological Properties of Genus Andrographis. Current Organic Chemistry, 29(7), 519-568.
24. Sharma, P., Singla, N., Kaur, R., & Bhardwaj, U. (2024). A review on phytochemical constituents and pharmacological properties of Catharanthus roseus (L.) G. Don. J Med Plants Stud, 12(3), 131-156.
25. Deutch, M.R., Grimm, D., Wehland, M., Infanger, M., Krüger, M. Bioactive Candy: Effects of Licorice on the Cardiovascular System. Foods 2019, 8, 495. [CrossRef]
26. Zhang, Q., Ye, M. Chemical analysis of the Chinese herbal medicine Gan-Cao (licorice). J. Chromatogr. A 2009, 1216, 1954–1969. [CrossRef]
27. Ong, E.S., Len, S.M. Pressurized hot water extraction of berberine, baicalein and glycyrrhizin in medicinal plants. Anal. Chim. Acta 2003, 482, 81–89. [CrossRef]
28. Charpe, T., Rathod, V. Extraction of glycyrrhizic acid from licorice root using ultrasound: Process intensification studies. Chem. Eng. Processing Process Intensif. 2012, 54, 37–41. [CrossRef]
29. Cui, Y.M., Yu, L.J., Ao, M.Z., Yang, Y., Hu, J. [Studies on flavonoids extraction technology from Glycyrrhiza inflata and their bacteriostatic activities]. Zhong Yao Cai 2006, 29, 838–841. [PubMed]
30. The People's Republic of China. Pharmacopoeia of the People's Republic of China; China Medical Science Press: Beijing, China, 2010.
31. Yang, R., Yuan, B.C., Ma, Y.S., Zhou, S., Liu, Y. The anti-inflammatory activity of licorice, a widely used Chinese herb. Pharm. Biol. 2017, 55, 5–18. [CrossRef] [PubMed]
32. Tao, W., Duan, J., Zhao, R., Li, X., Yan, H., Li, J., Guo, S., Yang, N., Tang, Y. Comparison of three officinal Chinese pharmacopoeia species of Glycyrrhiza based on separation and quantification of triterpene saponins and chemometrics analysis. Food Chem. 2013, 141, 1681–1689. [CrossRef]
33. Zhu, Z., Tao, W., Li, J., Guo, S., Qian, D., Shang, E., Su, S., Duan, J.A. Rapid determination of flavonoids in licorice and comparison of three licorice species. J. Sep. Sci. 2016, 39, 473–482. [CrossRef]
34. Xie, J., Zhang, Y., Wang, W., Hou, J. Identification and Simultaneous Determination of Glycyrrhizin, Formononetin, Glycyrrhetinic Acid, Liquiritin, Isoliquiritigenin, and

Licochalcone A in Licorice by LC-MS/MS. Acta Chromatogr. 2014, 26, 507–516. [CrossRef]
35. Kondo, K., Shiba, M., Nakamura, R., Morota, T., Shoyama, Y. Constituent properties of licorices derived from Glycyrrhiza uralensis, G. glabra, or G. inflata identified by genetic information. Biol. Pharm. Bull. 2007, 30, 1271–1277. [CrossRef]
36. Song, W., Qiao, X., Chen, K., Wang, Y., Ji, S., Feng, J., Li, K., Lin, Y., Ye, M. Biosynthesis-Based Quantitative Analysis of 151 Secondary Metabolites of Licorice to Differentiate Medicinal Glycyrrhiza Species and Their Hybrids. Anal. Chem. 2017, 89, 3146–3153. [CrossRef]
37. Li, G., Nikolic, D., van Breemen, R.B. Identification and Chemical Standardization of Licorice Raw Materials and Dietary Supplements Using UHPLC-MS/MS. J. Agric. Food Chem. 2016, 64, 8062–8070. [CrossRef]
38. Nomura, T., Fukai, T. Phenolic constituents of licorice (Glycyrrhiza species). Fortschr. Chem. Org. Nat. 1998, 73, 1–140. [CrossRef]
39. Teoh, E. S. (2016). Genus: Habenaria to Ischnogyne. In Medicinal Orchids of Asia (pp. 441-469). Cham: Springer International Publishing.
40. Chhikara, N., Kaur, R., Jaglan, S., Sharma, P., Gat, Y., & Panghal, A. (2018). Bioactive compounds and pharmacological and food applications of Syzygium cumini–a review. Food & function, 9(12), 6096-6115.
41. Rana, N., Singh, V., & Ali, M. (2020). Formulation and Characterization of Ginger oil loaded Polyherbal Emulgels having extracts of Nardostachys jatamansi, Andrographis paniculata and Celaestrus paniculatus. Research Journal of Pharmacy and Technology, 13(9), 4077-4083.
42. Kishor, Y. C., Bir, M. I., & Khushboo, J. (2024). Critical review of Ayurvedic herbs in treatment of gynecological problems. International Journal of Research in AYUSH and Pharmaceutical Sciences, 1-4.
43. https://pubmed.ncbi.nlm.nih.gov/38882727/
44. https://scholarhub.ui.ac.id/ijmcb/vol3/iss2/3/
45. https://jpionline.org/article/32216/
46. https://rdw.rowan.edu/csm_facpub/37/
47. https://pubmed.ncbi.nlm.nih.gov/31738137/
48. https://pmc.ncbi.nlm.nih.gov/articles/PMC8833568/
49. https://pmc.ncbi.nlm.nih.gov/articles/PMC4710907/
50. https://pubmed.ncbi.nlm.nih.gov/25372397/
51. https://pubmed.ncbi.nlm.nih.gov/34562562/
52. https://pmc.ncbi.nlm.nih.gov/articles/PMC7861940/
53. https://pmc.ncbi.nlm.nih.gov/articles/PMC9572977/
54. https://www.mdpi.com/1420-3049/27/19/6241/
55. https://pmc.ncbi.nlm.nih.gov/articles/PMC4737971/
56. https://www.mdpi.com/1420-3049/25/14/3303
57. https://juniperpublishers.com/ctoij/pdf/CTOIJ.MS.ID.555650.pdf
58. https://pubmed.ncbi.nlm.nih.gov/35170677/
59. https://appliedcr.biomedcentral.com/articles/10.1186/s41241-017-0039-3
60. https://pmc.ncbi.nlm.nih.gov/articles/PMC6826637/
61. https://pmc.ncbi.nlm.nih.gov/articles/PMC7167772/
62. https://pmc.ncbi.nlm.nih.gov/articles/PMC8703329/
63. https://pmc.ncbi.nlm.nih.gov/articles/PMC9719702/
64. https://pmc.ncbi.nlm.nih.gov/articles/PMC7124151/
65. Han, Y.J., Kang, B., Yang, E.-J., Choi, M.-K., Song, I.-S. Simultaneous Determination and Pharmacokinetic Characterization of Glycyrrhizin, Isoliquiritigenin, Liquiritigenin, and Liquiritin in Rat Plasma Following Oral Administration of Glycyrrhizae Radix Extract. Molecules 2019, 24, 1816. [CrossRef]
66. Wang, L.Q., Yang, R., Yuan, B.C., Liu, Y., Liu, C.S. The antiviral and antimicrobial activities of licorice, a widely-used Chinese herb. Acta Pharm. Sin. B. 2015, 5, 310–315. [CrossRef]
67. Asl, M.N., Hosseinzadeh, H. Review of pharmacological effects of Glycyrrhiza Sp. and its bioactive compounds. Phytother. Res. 2008, 22, 709–724. [CrossRef]
68. Kwon, H.M., Choi, Y.J., Choi, J.S., Kang, S.W., Bae, J.Y., Kang, I.J., Jun, J.G., Lee, S.S., Lim, S.S., Kang, Y.H. Blockade of cytokineinduced endothelial cell adhesion molecule expression by licorice isoliquiritigenin through NF-kappa B signal disruption. Exp. Biol. Med. 2007, 232, 235–245.
69. Hattori, T., Sadakane, C., Koseki, J., Kase, Y., Takeda, S. Saireito probably prevents mesangial cell proliferation in HIGA mice via PDGF-BB tyrosine kinase inhibition. Clin. Exp. Nephrol. 2007, 11, 275–282. [CrossRef] [PubMed]
70. Zhao, H., Zhang, X., Chen, X., Li, Y., Ke, Z., Tang, T., Chai, H., Guo, A.M., Chen, H., Yang, J. Isoliquiritigenin, a flavonoid from licorice, blocks M2 macrophage polarization in colitis-associated tumorigenesis through downregulating PGE2 and IL-6. Toxicol. Appl. Pharmacol. 2014, 279, 311–321. [CrossRef] [PubMed]
71. Li, W., Sun, Y.N., Yan, X.T., Yang, S.Y., Kim, S., Lee, Y.M., Koh, Y.-S., Kim, Y.H. Flavonoids from Astragalus membranaceus and their inhibitory effects on LPS-stimulated pro-inflammatory cytokine production in bone marrow-derived dendritic cells. Arch. Pharmacal Res. 2013, 37, 186–192. [CrossRef]
72. Yang, N., Patil, S., Zhuge, J., Wen, M.C., Bolleddula, J., Doddaga, S., Goldfarb, J., Sampson, H.A., Li, X.M. Glycyrrhiza uralensis flavonoids present in anti-asthma formula, ASHMITM, inhibit memory Th2 responses in vitro and in vivo. Phytother. Res. 2013, 27, 1381–1391. [CrossRef] [PubMed]
73. Brown, A.K., Papaemmanouil, A., Bhowruth, V., Bhatt, A., Dover, L.G., Besra, G.S. Flavonoid inhibitors as novel antimycobacterial agents targeting Rv0636, a putative dehydratase enzyme involved in Mycobacterium tuberculosis fatty acid synthase II. Microbiology 2007, 153, 3314–3322. [CrossRef]
74. Feldman, M., Santos, J., Grenier, D. Comparative Evaluation of Two Structurally Related Flavonoids, Isoliquiritigenin and Liquiritigenin, for Their Oral Infection Therapeutic Potential. J. Nat. Prod. 2011, 74, 1862–1867. [CrossRef]
75. Oldoni, T.L.C., Cabral, I.S.R., Regitano d'Arce, M.A.B., Rosalen, P.L., Ikegaki, M., Nascimento, A.M., Alencar, S.M. Isolation and analysis of bioactive isoflavonoids and chalone from a new type of Brazilian propolis. Sep. Purif. Technol. 2011, 77, 208–213. [CrossRef]
76. Boyapelly, K., Bonin, M.-A., Traboulsi, H., Cloutier, A., Phaneuf, S.C., Fortin, D., Cantin, A.M., Richter, M.V., Marsault, E. Synthesis and Characterization of a Phosphate Prodrug of Isoliquiritigenin. J. Nat. Prod. 2017, 80, 879–886. [CrossRef]
77. Adianti, M., Aoki, C., Komoto, M., Deng, L., Shoji, I., Wahyuni, T.S., Lusida, M.I., Fuchino, H., Kawahara, N., Hotta, H. Antihepatitis C virus compounds obtained from Glycyrrhiza uralensis and other Glycyrrhiza species. Microbiol. Immunol. 2014, 58, 180–187. [CrossRef]

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