



Review Article

HIGHLIGHTS OF PATTRU (POULTICE) IN SIDDHA

Jenifa Rose Priya T, Manikandan B

PG Scholar, Department of Pothu Maruthuvam, Govt. Siddha Medical College, Tirunelveli, Tamil Nadu, India.

ABSTRACT

Siddha system of medicine is one of the oldest medical system in the world. The treatment in Siddha is made by restoring the original balance of the three vital humours (*Vatham, Pitham, Kapham*) so that patient becomes healthy. It has a vast number of internal and external therapies. The non-oral therapy is known as External medicines -'Pura marundhu.' 32 types of external applications are mentioned in Siddha. In many instances, only the external procedures without oral intake of drugs are much sufficient. They are quite safe and efficient too. *Pattru* – Poultice is one among them, used to treat cuts, abscess, furuncles, boils, puffy indurations, haemorrhoids, eczema, etc., as a emollient, fungicidal, germicide and so on. This paper is an attempt to bring out the analysis of *Pattru* for various diseases as described in Siddha classical text books along with the mode of action scientifically, so that it would create awareness globally.

KEYWORDS: External therapy, *Pattru*, Siddha Medicine, Poultice.

INTRODUCTION

Siddha system of medicine is the oldest documented medical system in the world.^[1] It has a vast number of internal and external therapies. The non-oral therapy is known as External medicines -'Pura marundhu.' 32 types of external applications and manipulation are mentioned in Siddha text and most of them are in practice. In many instances, only the external procedures without oral intake of drugs are much sufficient.^[2] They are quite safe and efficient too. The application of medications to the skin to cure illnesses is a practice that has been utilized by humankind for thousands of years and has included the application of poultices, oils, gels, ointments, pastes, and lotions. Skin which is known as the largest organ of the human body plays important role in drug delivery.^[3] *Pattru* - Poultice (also called a cataplasm) one among them, is a soft moist mass, often heated and medicated, that is spread over the skin to treat an ache, inflamed or painful part of the body.^[4] It can be used on cuts, abscess, furuncles, boils, puffy indurations, haemorrhoids, eczema, etc., as a emollient, fungicidal, germicide and so on. It is much safer to use topical preparations made from plants to treat pain, even severe pain.^[5] This paper is an attempt to brings out the analysis of *Pattru* for various diseases as described in Siddha classical text books along with the mode of action scientifically, so that it would create awareness globally.

Methodology

Studies, reviews, evidences, articles and research paper in journals, Pubmed, Ayush, other data bases were studied out related to external therapies, poultice, topical applications and were taken into consideration. Siddha literatures, classical text books were studied out. The results were obtained from all the data and literatures collected.

Pattru

The *Pattru* in Siddha is obtained from plant extracts or by grinding raw drugs with or without processing them^[2] and, are either heated or not heated, is made into a thick paste and applied, or pasted on the affected area.^[5,6]

Therapeutic Sources^[6]

Plant parts such as leaves, flowers, fruits, seeds, nuts, rhizomes, barks, milk latex, resins, oils, egg, breast milk, curd, cow's butter, cow's urine, buffalo's urine, mineral products etc.

Eligible Criteria

Pattru is not advised in Cellulitis, children below 3 years.

Duration of Treatment

The entire treatment is usually given for one time in a day at an interval of 3-7 days upto 3 *Pattru*.^[6]

Function of Three Humours

The treatment in Siddha is aimed at restoring the original balance of the three forces (*Vatham, Pitham, Kapham*) so that patient becomes healthy.^[1]

Vatham is responsible for all sensory and motor neurological function and locomotor activities of bones, cartilages, muscles, nerve fibres, tendons, tissues and skin; dryness, black coloured skin, eyes, motion and urine. *Pitham* is responsible of hyperpyrexia, biochemical secretion and pigmentation of skin. *Kapham* is responsible for building up of joints may be synovium, synovial fluid, helps lubrication and can be considered related to adipose tissues of skin. (*Oon* and *kozhuppu dhathus*). [7] When the normal equilibrium of three humors (*Vatha*, *Pitha* and *Kapha*) is disturbed, disease is caused.[1]

Skin, as Absorption Site

Skin is a neuro-endocrine tissue, of the physical body. It is made up of tissue types like connective, soft tissue that is capable of producing

active macro molecules like neuro transmitters and neuro peptides, including neuro-endocrine tissue. Skin is like a substratum where nervous, immune, cutaneous and endocrinial systems have several functions to perform. The common neurotransmitter, Acetylcholine, is synthesized in dermal extra-neuronal sites like melanocytes, fibroblasts, endothelial cells and immune cells. Production of structural proteins, glycans, lipids and other signalling molecules also take place in the skin. Some stimulating sites in the skin can trigger the production and release of neuro-transmitters neuropeptides and various hormones. In the same way the neural connections of the skin, the connection between the brain and the skin, play vital role in inflammation, repair, cellular proliferation and healing.[8]

Table 1: Pattru for Various Diseases

Preparation of Various Pattru/Poultice	Application/ Diseases
Root tuber of <i>Mirabilis jalapa</i> (<i>Andimalli</i> , Four o'clock flower) and water is made as <i>Pattru</i> .	Swelling due to injuries [9]
The leaf of <i>Aloe barbadensis</i> (Indian aloe, <i>Katralai</i>) is shown in heat to get the juices which would be a yellow colour. It gets black on dried. On sunlight exposure it turns red (<i>Rattabolam</i>) which is dissolved in water and boiled to make <i>Pattru</i> .	Swelling due to trauma, hemiparesis and pain while walking.[9]
The leaf of <i>Agave americana</i> (<i>Anaikartazhai</i> , Bombay aloe) is shown in heat and juice is collected. Then it is mixed with powder of <i>Eleusine coracana</i> (<i>Kezhvaragu</i> , <i>Ragi</i>). Then they are heated till it becomes a semi liquid consistency (<i>Kuzhambu</i>)	Swelling[9]
Fresh root tuber of <i>Withania somnifera</i> (<i>Amukkura</i> , Winter cherry) is grinded with cow's milk, boiled and made into <i>Pattru</i> .	Tumours (<i>Kalalai</i>), Veneral diseases (<i>Kirainthi</i>), Tumour of neck (<i>Kaluthukalalai</i>), cervical lymph adenitis (<i>Kandamalai</i>) and swelling (<i>Veekam</i>).[9]
<i>Withania somnifera</i> (<i>Amukkura</i> , Winter cherry) root tuber can be mixed with rhizome of <i>Zingiber officinarum</i> (<i>Inji</i> , Dried ginger) and is made as <i>Pattru</i> by grinding with water	Pain in hip[9]
Roots of <i>Citrullus colocynthis</i> (<i>Artutumatti</i> , Bitter apple) is grinded into paste.	Apply on stomach for dyspepsia[9]
Roots or fruits of <i>Citrullus colocynthis</i> (<i>Artutumatti</i> , Bitter apple) is grinded with seeds of <i>Strychnos nux-vomica</i> (<i>Etti</i> , Strychine tree) as <i>Pattru</i> .	Abscess and macules (<i>Kuru</i>)[9]
Seeds of <i>Adenanthera pavonina</i> (<i>Anaikunri</i> , Coralwood tree) <i>pattru</i>	Abscess[9]
Roots of <i>Rheum emodi</i> (<i>Irevalchinni</i> , Himalayan Rhubarb), Pulp of <i>Cassia fistula</i> (<i>Sarakonrai</i> , Golden shower tree), purified potassium nitrate (<i>Vediuppu</i>), <i>Zingiber officinarum</i> (<i>Chukku</i> , Dried ginger), <i>Cedrus deodara</i> (<i>Devadar</i> , Himalayan cedar), <i>Santalum album</i> (<i>Chandanam</i> , sandal wood), <i>Nardostachys grandiflora</i> (<i>Jadamanji</i> , <i>Valerina</i> root) are mixed and grinded with water as <i>Pattru</i> .	Constipation, anuria and Hepatosplenomegaly which is followed by day by day recovery[9]
Flower bud of <i>Syzygium aromaticum</i> (<i>Lavangam</i> , clove) made as <i>pattru</i> .	Apply on the fore head and dorsum nasi for sinusitis and heaviness of

	head ^[9]
Roots of <i>Euphorbia ligularia</i> (<i>Ilaikkalli</i> , Common milk hedge) is mixed with <i>Ferula asafoetida</i> (<i>Peruingayam</i> , Asafoetida) and grinded with water as pattru.	Apply on stomach for children for Anthelmintic action. ^[9]
Milk latex of <i>Calotropis gigantea</i> (<i>Erukku</i> , Giganetic swallow wort) pattru.	Sprains, abscess, arthritis due to venereal diseases ^[26] (<i>vettaiyal undana keel vayu</i>), acute arthritis due to gout, rheumatism, gonorrhoea etc., (<i>Nari thalaivayu</i>) ^[9]
Seeds of <i>Anthocephalus cadamba</i> (<i>Kadambu</i> , Wil cinchona) pattru	Apply on fore head for sinusitis and joints of upper and lower limbs. ^[9]
Leaves of <i>Clerodendrum serratum</i> (<i>Kanduparangi</i> , Beetle killer) is made Pattru by grinding the leaves alone or with decoction of <i>Triphala</i> .	Swelling and abscess ^[9]
Nut of <i>Caesalpinia bonduc</i> (<i>Kazharchi</i> , bonduc- nut), <i>Zingiber officinatum</i> (<i>Inji</i> , Dried ginger), <i>Areca catechu</i> (<i>kalipakku</i> , areca nut) is taken in the ratio of 3:2:1 respectively and is mixed with albumin of egg then grinded with <i>Karungal</i> to make Pattru.	Swelling in scrotal filariasis, hydrocele. ^[9]
Leaves juices of <i>Aloe barbadensis</i> (<i>Katrazhai</i> , Indian aloes) is made as pattru with milk latex of <i>Papaver somniferum</i> (<i>abini</i> , poppy)	Apply on head for diseases of head ^[9]
Bark of <i>Woodfordia fruticosa</i> (<i>Kataathi</i> , Holy mountain ebony) is made as pattru by grinding with <i>kaluneer</i>	Abscess ^[9]
Root bark of <i>Jatropha curcas</i> (<i>Kattamanakku</i> , Nut of purging) pattru.	Joint cramps ^[9]
Unripe fruit of <i>Cucumis trigonus</i> (<i>Kattuthumatti</i> , Bitter gourd) is made powdered and boiled with Cow's milk as Pattru.	Mental illness ^[9]
Flowers of <i>Albizia lebbeck</i> (<i>Kaattuvakai</i> , Sirissa tree) Pattru.	Swelling, scabies, boils ^[9]
Seed of <i>Albizia lebbeck</i> (<i>Kaattuvakai</i> , Sirissa tree) Pattru	Lymphadenopathy ^[9]
<i>Agaricus campestris</i> (<i>Kalan</i> , White agaric; mushroom) Pattru.	Apply on the breast as a lactifuge ^[9]
Leaves of <i>Portulaca oleracea</i> (<i>Parupukeerai</i> , Common Indian parselane) pattru.	Diseases of head caused due to warmth. ^[9]
Leaves of <i>Phyllanthus amarus</i> (<i>Kizhkainelli</i> , Indian phyllanthus) pattru.	Myositis ^[9]
Flowers of <i>Crocus sativus</i> (<i>Kunkumappu</i> , saffron) grinded with breast milk, to make pattru.	Apply on forehead for head ache, rhinorrhea. ^[9]
Roots of <i>Plumbago indica</i> (<i>Kodiveli</i> , lead wort) is made as pattru by grinding with sesame oil.	Hemmoroids, Bubo in the groin (<i>Aaraiaapu</i>), Cervical lymphadenopathy (<i>kandamaalai</i>) ^[9]
Seeds of <i>Coriander sativum</i> (<i>Koththumalli</i> , Coriander) and <i>Santalum album</i> (<i>Sandhanam</i> , sandal) is made as pattru.	Head ache and throbbing pain in head (<i>kabala soolai</i>) ^[9]
Pulp of <i>Cassia fistula</i> (<i>Sarakonrai</i> , Golden shower tree) pattru.	Applied for children in case of dyspepsia, acts as a laxative ^[9]
Pulp of <i>Cassia fistula</i> (<i>Sarakonrai</i> , Golden shower tree), rhizome of <i>Zingiber officinatum</i> (<i>Inji</i> , Dried ginger), seeds of <i>Embelia ribes</i> (<i>Vaivilangam</i> , Embelia), <i>Ferula asafoetida</i> (<i>peruingayam</i> , Asafoetida), Alum (<i>Padikaaram</i> ; <i>seenakaaram</i>) or Sodium borate (<i>Vengkaaram</i> , borax), Nitrate of potash (<i>potiluppu</i> ; <i>vediuppu</i>) or <i>Kambiuppu</i> , and <i>koogaineer</i> were grinded into pattru.	Applied for anuria on the lower abdomen. ^[9]
Fresh tuber of <i>Cyperus rotundus</i> (<i>Korai</i> , Nut grass) pattru	Applied on breast act as Galactagogue. ^[9]

Flowers of <i>Michelia champaca</i> (<i>Shanbagam</i> , Golden yellow champa) is mixed and smashed with sesame oil into <i>pattru</i> .	Applied on forehead for nasal block, for diseases of head and eyes ^[9]
Seeds of <i>Anthum graveolens</i> (<i>Chathakuppai</i> , The dill) is boiled in steam and grinded with its roots as a <i>pattru</i> .	Arthritis (<i>Keel vayu</i>) ^[9]
<i>Myristica fragrans</i> (<i>Sathikkai</i> , Nut Meg) <i>pattru</i> .	Applied around the eyes for brighter vision ^[9]
Leaves of <i>Vitex negundo</i> (<i>Notchi</i> , Five leaved chaste tree) <i>pattru</i> .	Splenomegaly ^[9]
Seeds or bean of <i>Vigna radiata</i> (<i>Pachchai payaru</i> , Green gram) is made powdered and then made into <i>pattru</i> by adding hot water.	Apply for milk duct block, mastitis and mammary lymph adenopathy. ^[9]
Leaves of <i>Gossypium herbaceum</i> (<i>Parutti</i> , Indian cotton plant) is grinded with seeds of <i>Brassica juncea</i> (<i>kadugu</i> , mustard) as <i>pattru</i> .	Scorpion bite ^[9]
Flowers of <i>Gossypium herbaceum</i> (<i>Parutti</i> , Indian cotton plant) <i>pattru</i> .	Reduce burning and irritation caused due to burns and scalds. ^[9]
Oleo-gum resin of <i>Ferula asafoetida</i> (<i>Perungayam</i> , Asafoetida) and water <i>pattru</i> .	Apply on the chest of children for whooping cough. ^[9]
Leaves of <i>Phyla nodiflora</i> (<i>Poduthalai</i> , Purple lippia) <i>pattru</i> .	Drains the fluid and pus in carbuncles and boils. ^[9]
Rhizome of <i>Coscinium fenestratum</i> (<i>Mara manjal</i> , Tree turmeric) and water <i>pattru</i> .	Reduce warmth, dermatomyositis and swelling in abscess due to blood clot. ^[9]
Leaves of <i>Crataeva magna</i> (<i>Mavilingu</i> , Three leaved caper) <i>pattru</i> .	Inflammation and also apply on the sole of feet to reduce swellings, burning sensation and <i>Vatham</i> . ^[9]
Dry unripe fruit of <i>Piper cubeba</i> (<i>Valmilagu</i> , Tail-pepper) and rose water <i>pattru</i> .	Headache ^[9]
Leaves of <i>Moringa oleifera</i> (<i>Kaatu Murungai</i> , Horse radish) is added with two pieces of <i>Allium sativum</i> (<i>Vellulli</i> , garlic), a piece of turmeric, salt and pepper is made as <i>pattru</i> and given internally and externally.	Wounds of dog bite ^[9]
Leaves of <i>Moringa oleifera</i> (<i>Kaatu Murungai</i> , Horse radish) <i>pattru</i> .	Swelling ^[9]
Roots of <i>Moringa oleifera</i> (<i>Kaatu Murungai</i> , Horse radish) are grinded with seeds of <i>Brassica juncea</i> (<i>kadugu</i> , mustard) as <i>pattru</i> .	Hiccough, Bronchial Asthma (<i>eraippu</i>), Arthritis (<i>keel vayu</i>), enlarged organs and pain in back. ^[9]
Leaves of <i>Ipomoea pes-caprae</i> (<i>Musarkathilai</i> , Bayhops) <i>pattru</i> .	Inflammation in joints of upper and lower limbs and swelling due to Inguinal hernia (<i>Kudalandaveekam</i>). ^[9]
Rhizome of <i>Acorus calamus</i> (<i>Vasambu</i> , Sweet flag), <i>Kachukatti</i> and water are grinded as <i>pattru</i> .	Chronic arthritis (<i>Keel vayu</i>) ^[9]
Seeds of <i>Embelia ribes</i> (<i>Vaivilangam</i> , <i>Embelia</i>), cow's butter are grinded as <i>pattru</i> .	Apply on head for head ache ^[9]
Seeds of <i>Trigonella foenum-graecum</i> (<i>Vendayam</i> , Fenugreek), <i>Ficus carica</i> (<i>Semaiatti</i> , common fig) <i>pattru</i> .	Drain the fluid or pus of abscess ^[9]
Equal quantities of Bark of <i>Symplocos racemosa</i> (<i>Velllothram</i> , The Lodh tree), Root of <i>Glycrrhiza galbra</i> (<i>Athimadhuram</i> , Indian liquorice), Fried Alum (<i>Padikaaram</i> ; <i>seenakaaram</i>), Flowers of <i>Tabernaemontana divaricata</i> (<i>Nanthiyavattam</i> , East Indian Rose bay Ceylon jasmine) were grinded as <i>pattru</i> by adding water.	Apply around the eyes for diseases of eyes ^[9]

Leaves or flowers of <i>Melia azedarach</i> (<i>Malaivembu</i> , Common bead tree) <i>pattru</i> .	Apply on head for <i>Vatha</i> type of headache; head lice infestation, itching and for spreading ulcers. ^[9]
Sodium chloride impure (<i>Induppu</i> , Rock salt) <i>pattru</i> .	Body sprains ^[10]
Sodium chloride (<i>Kariuppu</i> , Common salt) and water is grinded as <i>pattru</i> .	Poisonous bite and then the poultice is made warmth to reduce the vigorously of bite. ^[10]
Traditionally equal quantities of Sodium chloride (<i>Kariuppu</i> , Common salt) and pulp of <i>Tamarindus indicus</i> (<i>Puli</i> , Tamarind) are made as paste by grinding with water and then boiled to obtain a semisolid form.	With mild heat, apply on swelling due to injuries and sprains to remove the blood clot and subside pain. ^[10]
<i>Karungal</i> rock is burnt using the straws of <i>Paspalum scrobiculatum</i> (<i>vargu</i> , Kodo millet), after the stone gets warmth, remove the straws and then add egg albumin. Then rub them with another <i>karungal</i> to get a mixture <i>pattru</i> .	Inflammation due to injuries and inflammation of joints. ^[10]
Lime stone and water <i>pattru</i>	Apply on the abdomen in case of abdomen colic, oliguria and dysuria ^[10]
Red ochre (<i>Kavikkal</i>) and water <i>pattru</i>	Herpes infection, Arthritis (<i>Keel vayu</i>) ^[10]
Cow dung is dissolved in water and boiled, made as <i>pattru</i>	Apply with mild warmth for swelling. ^[10]
<i>Neerkovai mathirai pattru</i> : 1 part <i>Curcuma longa</i> (<i>Manjal</i> , turmeric), 1 part <i>Curcuma aromatica</i> (<i>kasturi manjal</i> , wild turmeric), ½ part of borax (<i>Venkaaram</i>), ½ part of resin of <i>Styrax benzoin</i> (<i>sambrani</i> , benzoin), ½ portion seeds of <i>Piper nigrum</i> (<i>Milagu</i> , black pepper), ½ portion rhizome of <i>Zingiber officinarum</i> (<i>Sukku</i> , dried ginger). ½ portion of <i>Myristica fragrans</i> (<i>jathikkai</i> , Nut meg), ¼ portion of <i>Trachyspermum ammi</i> (<i>omam</i> , The Bishops weed), ¼ portion of <i>Syzygium aromaticum</i> (<i>Lavangam</i> , cloves) and ¼ portion of <i>Karpooram</i> (camphor). All the ingredients are powdered finely and lime juice is added to it. ^[11]	Apply on fore head in case of headache or sinusitis ^[11] , inflammatory conditions, swellings, arthritis. ^[12]
Rhizome of <i>Curcuma longa</i> (<i>Manjal</i> , Turmeric) is powdered and made, as <i>pattru</i> with slaked lime.	Apply on the forehead and the paranasal region of the face for sinusitis. ^[3]
<i>Pattru</i> is made of rhizome of <i>Acorus calamus</i> (<i>Vasambu</i> , sweet flag) with root of <i>Indigofera tinctoria</i> (<i>Avuri</i> , Indian indigo plant)	Topically applied on skin rashes ^[3]
Seeds of <i>Datura metel</i> (<i>Oomathai</i> , <i>Datura</i> thorn apple)and seeds of <i>Elettaria cardamom</i> (<i>Elam</i> , cardamon) - <i>pattru</i>	Apply below the navel region to overcome anuria ^[3]
<i>Paatru</i> is made with <i>Cardiospermum helicacabum</i> (<i>Mudakkaruthan</i> , Ballon-vine), slaked lime and cane jaggery.	Lymphatic swelling ^[3]
Leaves of <i>Zizyphus jujuba</i> (<i>Elanthai</i> , Indian jujube tree) are crushed, added to vinegar and stirred continuously using a wooden stirrer.	The emerging froth is applied topically on the region where burning sensation is felt. <i>Puravalayam</i> : This is application of the medicated paste around the orbital cavity. ^[3]
Egg white yolk mixed with sesame oil and dehydrated as <i>pattru</i> .	Apply on the thigh for <i>vatha</i> diseases. ^[3]
<i>Terminalia chebula</i> (<i>Kadukkai</i> , Myrobalan), <i>Glycirrhiza glabra</i>	Membranous growth of the

(Atimaduram, Indian liquorice), <i>Santalum album</i> (Sandhanam, Sandal wood), <i>Aquilaria agallocha</i> (Agil, Eagle wood), <i>Aegle marmelos</i> (Vilvam, Bael), <i>Pterocarpus santalinus</i> (Chemmaram, Red sanders), <i>Zingiber officinale</i> (Chukku, Dried ginger), <i>Ocimum sanctum</i> (Tulsi, holy basil) and Elephant tusk, the ingredients are powdered and made into a fine paste by triturating with breast milk.	conjunctivita. ^[3]
Milk latex of <i>Streblus asper</i> (Piray, Siamese rough bush), <i>Ficus benghalensis</i> (Alamaram, Banyan tree) and <i>Ficus racemosa</i> (Atti, Country fig) as pattru.	Diabetic carbuncles ^[13]
<i>Puttrumaan</i> , Red ochre (Kavikkal) or Red Soil (Chemman), Seeds of <i>Macrotyloma uniflorum</i> (Kollu, horse gram), Magnetic oxide of iron (Kandhamkal) each 1part, <i>Zingiber officinarum</i> (Chukku, dried ginger) ¼ part, egg albumin – pattru.	Filiarasis ^[13]
Seed of <i>Strychnos nux-vomica</i> (Etti, Strychine tree) and <i>Withania somnifera</i> (Amukara, Winter cherry) are grinded with slaked lime – pattru.	Cervical lymphadenopathy. (<i>Kanda maalai</i>) ^[13]
<i>Karungal</i> is rubbed with another <i>karungal</i> by adding human milk and made as pattru.	Cervical lymphadenopathy. (<i>Kanda maalai</i>) ^[13]
Roots of <i>Plumbago indica</i> (Kodeveli, lead wort) and water is made into pattru. But they can cause blisters.	Cervical lymphadenopathy. (<i>Kanda maalai</i>) ^[13]
<i>Agasthiyar kuzhambu</i> or <i>kowshigar kuzhambu pattru</i>	Cervical lymphadenopathy. (<i>Kanda maalai</i>) ^[13]
Nut of <i>Caesalpinia bonduc</i> (Kazharchi, bonduc- nut) and egg albumin pattru.	Testicular diseases (Vethainoi), arthritis (keel vayu) ^[13]
Sodium chloride (Common salt) and egg albumin Pattru.	Testicular diseases (Vethainoi) ^[13]
<i>Kuntri pattru</i>	Bubo (<i>AraiyaapuKatti</i>) ^[14]
<i>Karungal</i>	Acne (<i>Mugapparu</i>) ^[14]
<i>Poovarasu pattru</i>	Wounds (<i>Viranam</i>) ^[14]
<i>Kodagusalai pattru</i>	Cut injuries (<i>Vettukayam</i>) ^[14]
<i>Milakaiadithattu pattru</i>	Pleurisy (<i>Nuraieeral Thaabidham</i>) ^[14]
<i>Padikara pattru</i>	Carbuncular (<i>Raaja Pilavai</i>) ^[14]
<i>Mosambara pattru</i>	Arthritis (<i>Azhal keel vayu</i>) ^[14]
Leave juice of <i>Pergularia daemia</i> (Uttamani, Dog's bane white low plant), <i>Allium sativum</i> (Poondu, Garlic), Rice and salt obtained from <i>Bambusa arundinacea</i> (Mungkil, Bamboo), Nitrate of potash (<i>potiluppu; vediuppu</i>) and water are grinded as pattru.	Apply all over the body for hyperpyrexia and throbbing pain. ^[15]
Nitrate of potash (<i>potiluppu; vediuppu</i>), Seeds of <i>Syzygium cumini</i> (Naval, Jambul) and Roots of <i>Croton tiglium</i> (Nervalam, Purging croton) are powdered and made as pattru by mixing with ghee of <i>Calophyllum inophyllum</i> (Punnai, Alexandrian laurel).	Pain in joints of upper and lower limbs and for delirium (<i>muppininoi</i>). ^[15]
Seeds of <i>Strychnos potatorum</i> (Thettran, Clearing nut tree) is powdered. Neem oil is added to it to make pattru.	Shortness of breath (<i>Marbuadai-ppu</i>), cramps (<i>pidipu</i>), <i>Vazhinoi</i> and liver diseases (<i>vaillai</i>) due to fever. ^[15]
Emesis is made by drinking tender coconut, followed by applying Pattru of <i>Santalum album</i> (Sandhanam, Sandal wood) and Rose water	Apply all over the body for burning sensation, polydipsia and hyperpyrexia ^[15]

Equal quantity of Nut of <i>Caesalpinia bonduc</i> (<i>Kazharchi</i> , bonduc- nut), Rhizome of <i>Zingiber officinatum</i> (<i>Inji</i> , ginger) and egg albumin were made as <i>pattru</i> .	Epididymitis and Mastitis ^[15]
Equal quantities of <i>punugu</i> (civet) from <i>Viverra civetta</i> (<i>Punugu poonai</i> , civet cat), Nuts of <i>Gossypium arboreum</i> (<i>Chemparuthi</i> , Red cotton tree) are grinded with the juice of <i>Sesbania grandiflora</i> (<i>Agathi</i> , Sesban) are made as <i>pattru</i> .	Apply on head, eyebrows, forehead and dorsum nasi for watery, pus, blood type of <i>Mookadaipu</i> (<i>Peenisam</i> , Rhino sinusitis) ^[15]
Deer's horn, <i>Pterocarpus santalinus</i> (<i>Chemmaram</i> , red sanders), <i>Zingiber officinale</i> (<i>Chukku</i> , Dried ginger), seeds of <i>Cajanus cajan</i> (<i>Thuvarei</i> , Dal), seeds of <i>Dolichos lablab</i> (<i>Mochakottai</i> , lablab bean) and hot water or arrack- they are grinded and made as <i>pattru</i> .	Apply on the chest for angina (<i>marbuvali</i>) ^[15]
Pulp of <i>Cassia fistula</i> (<i>Sarakonrai</i> , Golden shower tree), Nitrate of potash (<i>potiluppu</i> ; <i>vediuppu</i>), Rat's poop (<i>Eli pulukai</i>) and water (or) Pulp of <i>Cassia fistula</i> (<i>Sarakonrai</i> , Golden shower tree), Rat's poop (<i>Eli pulukai</i>), roots of <i>Picrorhiza scrophulariiflora</i> (<i>Kadugurohini</i> , <i>Picrorhiza</i>) and water. Then grind them as <i>pattru</i> .	Apply on the abdomen to excrete urine, motion and expel flatus in ascities (<i>Peru vayaru</i>). ^[15]
<i>Indigofera tinctoria</i> (<i>Avuri</i> ; <i>neeli</i> , Indigo plant) is grinded with one cup of purified potassium nitrate (<i>vediuppu</i>) to make <i>pattru</i> .	Apply on lower abdomen for anuria (<i>Neerkattu</i>) in <i>Oolinoi</i> . ^[15]
Cook <i>Kambarisi</i> with juice of <i>Coccinia grandis</i> (<i>Kovai</i> , Ivy gourd). The prepared rice is placed in a mud pot with water. Replace the water daily with newer one till 8 days. On the 8 th day take equal quantity of rice and fresh leaves of <i>Coccinia grandis</i> (<i>Kovai</i> , Ivy gourd), grind them as <i>pattru</i> .	Make them as a form of cake (<i>Adai</i>) and place it on the lump of the Hemorrhoids. ^[15]
<i>Kukilvennai</i> or <i>alarchivennai</i>	Arthritis (<i>Keel vayu</i>) ^[15]

Pattru- Thrust Areas

- Traditionally topical herbal preparations make use of enhancers to facilitate the quality and quantity of skin transfer.^[16]
- Herbs high in tannins, like *Rheum emodi* (*Irevalchinni*), which have an astringent effect, to tighten, and protect the skin and reduce bleeding, prevent capillaries rupture, produce contraction of organic tissues.
- Rhizomes like Ginger, *Acorus calamus* (*Vasambu*) are anti-inflammatory,^[17] when used topically for arthritis, etc., Topical preparations must contain compounds that penetrate the skin, inhibit pain receptors such as transient receptor potentialaction channels and cyclooxygenase-2, to relieve pain. Inhibition of pain in the skin disrupts the pain cycle and avoids exposure of internal organs to large amounts of toxic compounds.^[5]
- Poultice can be used for Rashes, Viral infections like herpes, Bacterial infections, Fungal infections, Parasitic infections like lice, pigmentation disorders, tumours and cancers, trauma due to injury or cut or blow.^[19] They act as emollient, anti-microbial, antibacterial, anti-fungal etc.
- They will help to reduce the bacterial load in the area, lowering the chances of infection when the boil comes to a head and opens on its own. ^[17]
- Poultice act as chemical Cautery. It helps healing in abscess by draining the fluid including pus^[14] and also degrade pile mass.
- Plants like *Mirabilis jalapa* (*Andimalli*)tubers do have their effect in wound care and removes functional obstructions in the body as "deobstruent"^[17]
- *Pattru* plays vital role in swelling of filariasis, can be used to soften and reduce the swelling of lymphedematous tissues.
- In order to increase the efficacy of *pattru* there are varies material used to triturated along with the main source material. They are herbal juice, egg white, butter milk, curd, salt, ginger, lime juice, hot water and tamarind juice.^[14]
- The plant contains sesquiterpene lactones, (and also steroid saponins, alkaloids)^[24] which help to reduce swelling, and flavonoids, which strengthen blood vessels reducing the leakage of blood under the skin that occurs with bruising.^[18]
- Poultices like sodium chloride^[20] may also be heated and placed on an area^[4]/ or on application that produces redness of the skin (counter irritant), causing dilation of the capillaries and an increase in blood circulation as a rubeifacient.^[21]
- Topical agents providing anti-oxidant and anti-inflammation effects on the diseased tissues after penetrating the skin barrier is now a proven fact.

- The vascular promotion ability observed further supports the revascularization and regeneration of tissues accordingly, [16] as in sprains and myositis.
- Mucilaginous property of the herbs is due to polysaccharide content that produces a slippery and mild sweet taste in water. Mucilaginous herbs are most effective topically as poultice and knitting agents and are also used topically in the digestive tract. They eliminate the toxins from the intestinal system, help in regulating it, and reduce the bowel transit time. They are emollient, vulnerary, detoxifier in nature.[22]
 - Terpenes, the primary constituents of the essential oils obtained from many types of plants and flowers have been shown to have percutaneous permeation through the intact skin. Various sesquiterpenes have also been found to enhance percutaneous penetration of the drugs possibly by disrupting the intercellular lipid bilayers in the stratum corneum, thus improving co-administered drugs diffusivity, and/or increasing drug partitioning. Some other phytochemicals, such as fixed oils and fatty acids, aloe juice and α -tocopherol (as a topical medication, with claims for improved wound healing and reduced scar tissue), also have percutaneous penetration enhancing effects. Thus, these phytochemicals exert multi-dimensional activities intopical remedies.[3]
 - These phytochemicals along with many other bioactive compounds play pivotal role in alleviating GI disorders through exhibiting numerous activities including anti-spasmodic, anti-ulcer, anti-secretory, anti-colitis, anti-diarrheal, antibacterial, anthelmintic, anti-inflammatory and anti-oxidative stress properties. Several mechanisms underlie these activities including the alleviation of oxidative stress, exhibiting cytoprotective activity, down-regulation of the inflammatory cytokines, suppression of the cellular signaling pathways of inflammatory responses, improving re-epithelialization, angiogenesis, and neovascularization mediated by the up-regulation of tissue growth factors, PGs, and vWF/ factor VIII complex, together with the down-regulation of anti-angiogenic factors, blocking muscarinic activity of acetylcholine (resulting in anti-secretory effects), etc.[3] may be mechanism for topical application of ascites, pleurisy etc.
 - Topical remedies commonly contain a combination of herbal powders, oils, oleo-gum-resins and extracts which may have synergistic effects with different mechanisms.[3]

- Poultice may have an antihistamine, action which, serves to reduce or eliminate the effects brought on by histamine, a chemical mediator released during allergic reactions. Anti-histamines are commonly used for allergic rhinitis, allergic conjunctivitis, contact dermatitis, urticaria (hives), angioedema and pruritus (atopic dermatitis, insect bites).[23]
- Poultice with, Boric acid is fungistatic to fungicidal depending on concentration and temperature. Inhibition of oxidative metabolism appears to be a key antifungal mechanism[24]

In many of the above given procedures *Pattru* is not heated, but generally *Pattru* should be heated and is to be applied. Established surgeons and physicians should refrain from teasing topical agents as "myths," "counter-irritants" or "ritual practices."^[16] Accordingly, there is a need to investigate pharmacological activities, clinical efficacy, pharmacokinetic aspects as well as possible skin reactions and other adverse effects of recommended plants in topical use.^[3]

CONCLUSION

Pattru has become one of the least common mode of topical application now a days due to inadequate awareness and do make world confident on the traditional *Pattru*, based on its efficacy. They are much potential in curing diseases with low cost and better improvement. This paper gives a brief account of application and manipulation of various *Pattru* for diseases so that it would be helpful for further research.

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***Address for correspondence**

Dr Jenefa Rose Priya.T

Jene Clinic, 159\1, First Street,
Shanthi Nagar, Palayamkottai,
Tirunelveli, Tamil Nadu, India.

Email: dr.jenefa@gmail.com

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