

# THAI WISDOM REGARDING HERBAL MEDICATION IN PREVENTION, CARE AND REHABILITATION IN MUAY THAI (THAI BOXING) FIGHTER'S PHYSICAL BODY

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**Abstract** - Thai wisdom regarding herbal medication in prevention, care and rehabilitation in Muay Thai fighter's physical body aims to study on herb's active constituent, medical properties of herbs, dosage and volume, dosage forms. In this research, questionnaires were implemented to conduct a survey with population: experienced Muay Thai fighters or former Muay Thai fighters and head of Thai boxing camps. 4 pharmaceutical aspects were studied such as active constituent name consisted of names, dosage forms, colors, odors and tastes; medical properties of herbs consisted of 10 flavors; dosage and volume of herb's active constituent consisted of micro-dosing, a determination of dosage and macro-dosing and production model of herb's active constituent consisted of liquid dosage forms (syrup, suspension and extracts) solid dosage forms (drug powder, pill, tablet and capsule) topical application forms (medicated cream, suppository and poultice) and inhalations.

It is found that many herbs are practical in prevention, care and rehabilitation of Muay Thai fighter's physical body. Benefits of the research is that Thailand has many new herbal medicines; consequently, medical supplies do not have to be purchased into Thailand. Given that, a negative balance of trade can be reduced; moreover, herbal medicines that can be administered to Muay Thai fighters and sent to trade internationally.

**Keywords** - Thai wisdom, Herbs, Prevention, Care, Rehabilitation, Muay Thai fighters

## I. INTRODUCTION

Thai people have perceived importance and benefits of herbal medication for a long time ago as they used Thai wisdom to apply herbs to prevent, care and rehabilitate Muay Thai fighter's physical body. Particularly in prevention, Thai people have used herbs as blood tonic, heart tonic, neurotonic, sinew tonic, stomachic tonic, cirrhosis cure, wandering spleen treatment, astringent, elixir, pulmonary tonic, blood stagnation, kidney treatment, diuretics for a long time; moreover, they have been used herbs for psychological benefits, that is to say, using herbs to last and endure, especially skin hardening to fight without causing wound or swelling and etc. As for care, herbs have been used to treat physical body of Muay Thai fighters for a long time as well, especially using vegetable as medicine to preserve their life as in boxing, there are many injuries such as swelling and hardened skin, arthritis, dislocation, fracture of nasal bone, periobital hematoma (black eye), cauliflower ear, rib fracture and encephalitis and etc. As for rehabilitation, Thai people have used herbs as hot and cold fermentation, herbal steam bath, bathing, massage, sauna, steam-reclining treatment, steam-sitting treatment and etc.

With the usefulness, importance and greatest benefits yielding to Thai boxing, nevertheless the medication in prevention, care and rehabilitation of Muay Thai fighter's physical body was not apparently recorded, only words passing on descendants and relatives or interested one or pupils, as those who are knowledgeable are possessive or fear that they would lose the benefits. Thus, when they passed away or deceased, those knowledge about herb medication for prevention, care, rehabilitation of Muay Thai fighter's body was lost; however, in the present time,

academicians and pharmacists relevant to research, drug development, networks and strategies, Institute of Drug Discovery and Development, Faculty of Pharmacy of Thammasat University, Faculty of Pharmacy of KhonKaen University, Faculty of Pharmacy of Prince of Songkla University and Faculty of Pharmacy of Chiangmai University had an idea to jointly study, research and develop a new medicine for Thai boxing and general sports in order to replace international imports for not gaining negative balance of trade with foreign countries; furthermore, there are the needs to export herbal medicine to distribute in foreign countries (globally).

## II. OBJECTIVE(S)

To study herb's active constituents, medical properties of herb's active constituents, dosage and volume of herb-active constituents, production model or characteristics of herbal medicines that are able to use in prevention care and rehabilitation for fighter's physical body.

## III. RESEARCH METHODOLOGY

**Phrase 1:** Documentary research.

**Phrase 2:** Outline of questionnaire.

**Phrase 3:** Quantitative research.

**Phrase 4:** Qualitative research by focus group conversation.

**Phrase 5:** Document preparation

## CONCLUSION

It is found that all objectives can be achieved as follows:

**1. Names of herb's active constituent able to apply in prevention, care and rehabilitation for fighter's physical body.**

Procedure in off-season tournament training (10-6 months before tournament) and training procedure in order to prepare before Thai boxing tournament season (3-2 months before tournament) has herb's active constituent as follows:

(1) Brain-tonic herbs such as *Centellaasiatica*, *Ginkgo biloba*, *Citrus aurantifolia*, seaweed, marine fish.

(2) Liver-tonic herbs such as *Curcuma longa*, *Tinosporacordifolia*, *Momordicacharantia* L., *Phyllanthusemblica*, molded bark of *Mimusopselengi* L., *Myristicafragrans*, *Erythrinasuberosa* Roxb., *Azadirachtaindica* and *Cinchona succirubra* Pav.

(3) Kidney-tonic herbs such as *Orthosiphonaristatus*, *Imperatacylindrica* (L.) root, *Hibiscus sabdariffa*, *Plucheaindica*, *Cymbopogoncitratus*, *Saccharumofficinatum* and *Ananascomosus*.

(4) Blood, vein and heart tonic herbs such as *Allium sativum*, *Allium cepa* var. *aggregatum*, *Allium cepa* L., Mulberry tea, *Jasminum*, *Mimusopselengi* L., *Mesuaferrea*, *Mammeasiamensis*, *Nelumbonucifera*, *Micheliachampaca* Linn., *Canangaodorata*, *Pandanusodoratissimus* L.f., *Melodorumfruticosum*, *Aquilariacrassna*, *Fagraeafragrans*, *Artocarpusheterophyllusduramen*, *Cratevareligiosa*, *Strychnosnux-vomica* L., *Angelica dahurica* Benth., *Zanthoxylumlimonella* (Dennst.), *Hiptagebenghalensis* (Linn.) Kurz, *Sennatimoriensis* (DC.) H.S. Irwin & Barneby, *Abutilon polyandrum* W. & A. MALVACEAE, *Abutilon indicum*, *Abutilon graveolens* W. & A. Malvaceae, *Bixaorellana* L., *Carthamustinctorius*, *Vaticadiospyroides*, *Mansoniagagei*, *Myristicafragrans*, *Tarenahoaensis* Pitard, *Plumbagozeylanica*, *Sennatoria*, *Pandanusamaryllifolius* Roxb., *Pogostemoncablin* (Blanco) Benth., *Nigella sativa*, *Ficusshirta*, *Cocosnucifera*, *Carica papaya*, *Nerium oleander*, *Justiciaadhatoda*, *Azadirachtaindica*, *Anuntakun*, *OxycerusHorridus* Lour., *Toddaliaasiatica* (Linn.) Lamk., *Atherolepis pierrei* Cost. Var. *glabra* Kerr, *Alternanthera sessilis* (Linn.) R.Br. and *Fimbristylismiliacea* (L.) Vahl.

(5) Alimentary tract tonic herbs such as *Sennaalata*, *Sennaalexandrina*, simmered resin from *Aloevera* (L.) Burm.f., ripened banana, *Terminaliachebula*, *Terminaliabellicica*, *Ocimumbasilicum* Linn., *Melissa officinalis*, *Zingiberofficinale*, *Aloe vera* (L.) Burm.f. and *Oroxylumindicum*

(6) Muscle tonic herbs such as *Stephaniavenosa* (Blume) Spreng, *Stephaniavenosa* (BP.) Spreng., *Sauropushirsutus* Beille, *Knemaangustifolia*,

*Angiopterisevecta* (G. Forst.) Hoffm., *Gomiothalamuslaoticus* (Finet & Gagnep.) Ban, *Polyalthiaevecta* (Pierre) Finet & Gagnep., *Bixaorellana* L., *Bauhinia curtisii* Prain, *Streptocaulonjuventas* Merr., *Tribulusterrestris*, *Ochnaintegerrima*, *Chloranthus erectus* (Bucg.-Ham) Verdc., *Aspidistra elatior* Bl., *Salaciaverrucosa* Wight., *Salaciachinensis* L., *Ellipanthustomentosus* Kurz Var. *tomentosus*, *Tadehagitriquetrum* (L.) H. Ohashi, *Taccaleontopetaloides*, *Scleropyrumpentandrum* (Dennst.) Mabb., *Hydrocotylesiamica*, *Asparagus Racemosus* Willd., *Ceasalpiniasappan* Linn., *Alstoniascholaris*, *Polygala chinensis* L., *Asparagus racemosus* Willd., *Morindacitriifolia*, *Osbeckiastellata* Buch. - Ham. Ex Ker-Gawl., *Desmodiumoblongum* Wall. Ex Benth., *Paris polyphylla* Smith., *Ficusshirta* Vahl., *Oroxylumindicum* (L.) Kurz., *Mucunapruriens* DC., *Calamuscaesius* Blume., *Pothoschinensis* (Raf.) Merr., *Clerodendrum serratum* (L.) Moon, *Suregadamultiflorum* Baill., *Betulaalnoides*, *Taccaleontopetaloides*, *Diospyrosdecandra* Lour., *Diospyrosrhodocalyx* Kurz, *Borassusflabellifer*, *Carissa spinarum* L., *Alangiumsalviifolium* Wang., *Osbeckiastellata* Ham., *Ficusfoveolata* Wall, Aikhaio, *Costusspeciosus*, *Pisumsativum*, *Cryptolepis dubia* (Burm.f.), *Stephaniapierrei* Diels, *Boesenbergia rotunda*, *Boesenbergia rotunda*, *Stachyphrynium jagorianum* (K. Koch.) K. Schum., *Panax*, *Marsilea crenata*, *Cyperusalternifolius*, *Cyperusalternifolius*, *Piper longum*, *Zingiber montanum*, *Piper nigrum*, *Alpinia purpurata*, *Albizia myriophylla* Benth., *Allium sativum*, *Terminaliabellicica*, honey, *Musa ABB CV. Klui "Namwa"*, *Mallotus repandus* Muell. Arg. *Anaxagorealuzonensis* A. Gray, *Elephantopus scaber* (all parts of the plant being usable), *Diospyrosrhodocalyx* Kurz (bark), *Albizia Procera* (Roxb.) Benth., *Piper nigrum* Linn., *Derris scandens* (Roxb.) Benth., *Hydrocharismorsus-ranae*, *Tectonagrandis*, *Ixoralucida* R.Br. ex Hook.f. (root), *Aganosmamarginata* G. Don (root), *Oroxylumindicum* (L.) Kurz (bark), *Tamarindusindica* L. (root), *Clausenawallichii* Oliv. var. *guillauminii* (Tanaka) J.P. Molino. (root), *Uncaria homomalla* Miq. (vine), *Acanthus ebracteatus*, *Piper sarmentosum*, *Piper ribesoides* Wall. *Piper interruptum* Opiz (vine), *Zingiber zerumbet* (L.) (dried cyme), *Smilax cerbularia* subsp. *Corbularia*, *Smilax glabra*, *Maeruasiamensis* Pax (root), salt, *Streblusasper* Lour. (seed), *Cleome viscosa* L., *Cinnamomum subavenium*, *Glycosmis arborea* (Roxb.) DC., *Tiliacoria andra* (Colebr.) Diels, *Microcospaniculata* L. (duramen), *Alstoniascholaris* (duramen), *Sennaalata*, *Justiciagendarussa* Burm.f. (root), *Gija* (root), *Suba* (root), *Sennasiamea* (duramen).

Herbs in 5 food groups applied in prevention (strengthening physical fitness of Muay Thai fighters).

**Group 1:** Meat, eggs, milk, dried beans and soybean providing protein such as beef, pork, chicken, duck, fish, seashell, crab meat, shrimp, buffalo meat.

**Group 2:** Flour, taro, yam such as rice, sticky rice, corn, oat, wheat, barley, rye.

**Group 3:** Vegetable: Ivy gourd, morning glory, careless weed, Chinese cabbage, lettuce, coriander.

**Group 4:** Fruits: Santol, banana, jackfruit, rambutan, Chan, rose apple, palmyra, muskmelon, watermelon.

**Group 5:** Fat: butter fat, tallow, margarine, olive oil, corn oil, safflower oil, soybean oil, rice oil

Herbs applying in strengthening physical fitness of Muay Thai fighters are such as *Stahlianthus* Sp., Treatment procedure

(1) Herbs for arthritis treatment: *Crinum asiaticum*, *Pandanus*, *Tectonagrandis* (leaf), *Cissusquadrangularis*, *Zingiber montanum*, salt.

(2) Herbs for acute wound treatment: *Allium sativum*, *Curcuma longa*, coconut oil.

(3) Herbs for eye pain treatment: Turmeric powder, *Caesalpiniasappan* L., borneol, rain water, *Gossypiumhirsutum* L. (leaf) and *Cocciniagrandis* (L.) Voigt.

(4) Herbs for stomatitis treatment: salt, tea leaf, cane sugar, *Streblusasper* (bark), *Pterocarpussantalinus*, cracked tamarind shell, cracked sacred fig shell.

(5) Herbs for epistaxis treatment: ashes, incense stick ashes and *Thyrsostachyssiensis* Gamble.

(6) Herbs for haematemesis treatment: stone root, *Corallinales*, *Ficusracemosa* L. (root), *Trianthemaportulacastrum* L. (root), *Rafflesiakerri*, wet root of jack fruit.

(7) Herbs for pyorrhoea: *Streblusasper* Lour. (bark) and salt.

(8) Herbs for chest oppression: *Acoruscalamus*, *Citrus hystrix* (skin), *Aeglemarmelos* (leaf), *Curcuma zedoaria*, *Zingiberzerumbet*, *Zingiberofficinale*, *Piper nigrum*.

(9) Herbs for internal contusion: *Centellaasiatica*, animal bile, liquor, *Smilax cerbularia* subsp.

(10) Herbs for chronic wound: salt, rice, *Curcuma zedoaria*, *Tinosporabaenzigeri* Forman (vine), *Tinosporacordifolia*, coconut oil, cerate, *Ruelliatuberosa* (seed).

(11) Herbs for lumbar pain, back pain, body pain and treatment: *Pachyrhizuserosus*, *Sennasiamea*, *Citrulluslanatus*, salt.

(12) Herbs for headache treatment: *Syzygiumaromaticum*, tea, *Citrus × aurantiifolia*, *Allium ampeloprasum* var.

(13) Herbs for swelling treatment: *Phyllanthusurinaria*, *Clitoriaternatea* Linn. (leaf), lemon juice mixed with marly limestone.

(14) Herbs for paralysis treatment: *Ligusticum striatum* DC., *Angelica dahurica* Benth., *Atractylodeslancea* (Thunb.) DC., *Angelica sinensis* (Oliv.) Diels.

(15) Herbs for renal deformity treatment: *Citrulluslanatus*, *Imperatacylindrica* (L.) (root) and *Cenchrusaegyptius* (L.) P.Beauv.

(16) Herbs for Hematuria treatment: *Myristicafragrans* Houtt., *Terminaliachebula* Retz. var. *chebula*, *Piper ribesoides* Wall.

(17) Herbs for urination aiding: *Musa ABB* cv. *Kluai 'Namwa'* (dried leaf), *Monetariamoneta*, alum, *Arundodonax*.

(18) Herbs as cathartic agents: *Rheum palmatum* L., *Commiphoramyrrrha* and simmered resin from *Aloe vera* (L.) Burm.f.

Treatment procedure on physical body of Muay Thai fighters in off-season tournament has herbs as follows:

(1) Herbs for formentation: *Zingiber montanum*, *Tamarindusindica* (leaf), salt, *Cymbopogoncitratatus*, *Citrus hystrix* (skin), *Ipomoea aquatica* Forssk. (root), *Acacia concinna* (Willd.) DC. (leaf), *Cinnamomumcamphora*, *Curcuma longa*, borneol, *Curcuma aromatica*, *Kaempferiagalanga*, orange husk, *Pandanusamaryllifolius*, *Curcuma comosa* Roxb., *Crinum asiaticum*, *Acoruscalamus* L., *Curcuma zedoaria* (Christm.) Roscoe, *Cryptolepis dubia* (Burm.f.) M.R.Almeida and *Cymbopogonnardus* Rendle.

(2) Herbs for herbal steam bathing: *Acoruscalamus* L., *Cryptolepis dubia* (Burm.f.) M.R.Almeida, *Alyxiereinwardtii* Blume (husk), *Allium ascalonicum*, *Zingiber montanum*, *Curcuma longa*.

(3) Herbs for bathing: *Glycosmispentaphylla* DC., *Blumeabalsamifera*, *Citrus hystrix*, *Aeglemarmelos* (leaf), *Hesperethusacrenulata*, *Cymbopogoncitratatus*, *Ocimumtenuiflorum*, *Eupatorium fortunei* Turcz., *Trigonellafoenumgraecum*, *Alyxiereinwardtii* Blume

(4) Herbs for massage: *Amorphophalluskonjac* (Buk), *Typhoniumtrilobatum* (L.) Schott (Wan Ki), *Typhoniumtrilobatum* (L.) Schott, *Dioscoreahispida* Dennst (tuber), *Geodorumrecurvum* (Roxb.), *Cibotiumbarometz* J.Sm., *Barlerialupulina*.

(5) Herbs for steam-reclining treatment: *Equisetum debile* Roxb., *Erythrinavariegata*, *Acoruscalamus*, *Croton stellatopilosus* Ohba, *Vitex trifolia*, *Polygonumarifolium* Linn.

(6) Herbs for sauna: *Croton persimilis* Müll.Arg., *Blumeabalsamifera*, *Crinum asiaticum*, *Glycosmis cochinchinensi* Pierre. and *Curcuma longa*.

(7) Herbs for steam-sitting treatment: Citrus hystrix (dried skin), Acoruscalamus, AlyxiareinwardtiiBlume (bark), Blumeabalsamifera (leaf), Vitextrifolia, Nigella sativa.

#### **2. Medical properties of herb's active constituent applied on Muay Thai fighters**

For a person related to Thai boxing field, these information can be used in treatments, herb's active constituents as abovementioned have 10 flavors as follows: (1). Acerbic (2). Sweet (3).Intoxicated and poisonous-like taste (4).Bitter (5). Hot and spice (6). Oily-like taste (7).Chilly and fragrant (8).Salty (9). Sour (10). Flavorless

#### **3. Dosage and volume of herb's active constituent**

(1). Infusion. (2). Decoction. (3). Tablet. (4). Drug powder.(5). Medicated spirits.

#### **4. Dosage forms or characteristics**

1. Liquid dosage forms are such as:

- (1.1). Syrup
- (1.2). Suspension
- (1.3). Extracts
- (1.4).Tinctures

2. Solid dosage form such as drug powder, pill, tablet and capsule

3. Topical application form such as cream, suppository and poultice

#### **4. Inhalation**

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