

A REVIEW ON TRADITIONAL VETERINARY MEDICAL PRACTICES IN SRI LANKA WITH SPECIAL REFERENCE TO CATTLE DISEASES

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ABSTRACT

Sri Lanka has well developed systems of traditional veterinary medicine. Unfortunately most of our people today, are unaware of these practices and they generally seek western modern veterinary medicinal assistance due to this unawareness and also for convenience in their busy lives. Hence, this study was undertaken to collect and preserve the old knowledge and practices. Data were gathered from traditional veterinary physicians in Central and Sabaragamuwa provinces, Olla leaves and text books. These physicians have a knowledge in identifying and treating diseases, preparation of medicines, mode of drug administration, burning of vital points (moxibustion), branding, and blood letting. Specific applications of metaphysical nature such as mystical diagrams and charms, 'Yanthra' or 'Kem' are also used. The striking feature of this treatment regimen is the incorporation of both physical (visible) and metaphysical (invisible) methods to treat diseases as preventive and therapeutic measures. The medicinal preparations consist of herbs, metals, minerals and animal products including milk products, eggs, bones, meat, spider web, anthill mud and human urine. It is also observed that the traditional veterinary medicinal practices; especially in treatment of cattle, are very diverse.

Key words: Cattle diseases, Traditional veterinary remedies, Sri Lanka

INTRODUCTION

Sri Lanka has a well developed traditional system of Medicine, Agricultural methods, Architecture & Culture since ancient days. Traditional physicians of Sri Lanka regularly treated human patients, animals; especially cattle, other household animals, elephants & horses for various ailments. These treatment methods were passed down from generation to generation through writings on olla leaves or being taught by father-to-son. According to the "Mahawansa", a historical chronicle of Sri Lanka, veterinary hospitals were established by the ancient kings with veterinary doctors appointed to treat animals; especially cattle, in most villages. The reason for paying special attention to cattle was due to a close relationship between man and the domesticated cattle since early days of human history. Its milk, meat, skin, horns, cow dung, urine, *etc* have been used as food or medicine. These animals were further used in agriculture and transportation.

According to the Sri Lankan traditional veterinary physicians, there are 4,448 varieties of Weppu (Lethargy) Adappan (Nasal discharge and tremors) diseases, 120 of general diseases, 300 diseases of hepato billiary system, 8 diseases along the spine, 300 diseases of the intestines, 13 diseases of the joints of the legs, 1,448 diseases of the head and four extremities that may occur in cattle. Although this classification of diseases is huge in number, the Sri Lankan traditional veterinary physicians have

the knowledge to identify and treat them by using various methods. Some of these methods are described below.

The commonest route for drug administration in cattle is through the mouth. Other routes of drug administration include nose, ear, and anus. The 'Marma' or vital points of the body; akin to acupuncture pressure points, are popular application sites for therapy where branding of special patterns in order to stimulate the immune system is carried out. Bloodletting from specific blood vessels is also performed as a method of treatment. Further treatment methods include collyrium (Anjanam), fomentations, medicines applied to the whole body, inhalations (smoke or other medicaments) and fumigation. The prominence of certain veins and the hang of the tail help diagnosis and prognosis of certain diseases and conditions. Direct hand manipulation is a common method used to relive constipation and retained placenta. The aim of this study was to collect and preserve at least a portion of the traditional veterinary medical practices on cattle diseases in Sri Lanka.

MATERIALS AND METHODS

Treatment methods were gathered from traditional veterinary physicians in Central and Sabaragamuwa provinces who specialize in treating cattle diseases. Further data were collected from Sri Lankan traditional veterinary text books and olla leaves. Some

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selected formulae and treatments are presented in this paper.

Oral and nasal administrations of medicines:

Oral administration of medicine to cattle

A 60cm long reed of *Bambusa vulgaris* (Poaceae; Sinhala: *Una*) is used for this purpose. The inner surface of the reed is scraped carefully with the help of a knife and inner internodes are removed. Outer side is smoothened and one end is rounded. The rounded end of the reed is inserted into the animal's mouth up to the throat and medicines are poured in through other end of the reed.

Nasal administration of medicine

A 30cm petiole of *Carica papaya* (Caricaceae; Sinhala: *Gaslabu/ Pepol*) is used for this purpose. One end of the petiole is inserted inside the cow's nostril and the medicine is poured to the cow's nostril from other end of the petiole.

Preparation of Whey

Sixty (60)g of curd is mixed with 250ml of water and beaten well for thirty minutes. The scum formed on the top of the mixture is removed and remainder is used as whey.

RESULTS AND OBSERVATIONS

According to this study it was observed that traditional veterinary physicians use different methods to treat cattle diseases such as charms, branding and medicinal preparations prepared with herbs and minerals. Some of the medicinal preparations used in treatment of cattle are given in table 1.

Some physicians use different charms to treat different diseases. They incant and recite various charms as a preventive measure during epidemics. They also use charms as a therapeutic measure to treat diseases such as worm infestations, dermatitis and hoof disease. A list of Charms is given in table 2.

Further, Sri Lankan traditional veterinary physicians practice branding to treat different cattle diseases. The diseases and points of branding are given in table 3.

These traditional veterinary physicians brand the tip of the tail for twenty types of 'Adappan' and, brand veins around the umbilicus for 'Sidannoi' diseases. Inhalations (Nasna) are used for Weppu (lethargy), Adassi (constipation), Adappan (nasal discharge and tremors), dyspepsia, and defecation with mucous and Sidannoi (passing faeces with mucous). Collyriums (Anjanam) are used for most diseases and specially for Weppu (lethargy) and constipa-

tion. Method of Fumigation (Dum allima) is used for especially for 'Weppu' (lethargy). Fomentation is used for diseases of 'Weppu' (lethargy) and 'Adappan' (nasal discharge and tremors). Drugs are applied on whole body, especially for 'Weppu' (lethargy), shivering, fever, and 'Adassi' (constipation) diseases. Drugs are administered through the ear for diseases such as Weppu (lethargy), Adappan (nasal discharge and tremors), fever and defecation with mucous.

One of the special treatment methods for cattle is bloodletting treatment. When suffering from 'Adappan' the blood flow in the veins at the right side of the neck of the cow is hot to touch, vibrating like a bow-string and is very fast. Measure two inches from the joint of ulnar olecranon of the fore-foot and puncture the vein downwards. If the blood flow is frothy and uniform colour, the animal is curable.

DISCUSSION

Traditional veterinary physicians use endemic plants such as *L. zeylanica*, *C. albiflora*, *Z. officinale* to treat cattle disease. One of the commonest has been the fresh plant of *P. amboinicus*. According to the study, traditional physicians treated mostly for gastrointestinal diseases, hoof diseases, infectious diseases and worm infestations. Various treatment methods and drug administering methods have been used in treating cattle. These physicians use different charms for different diseases, but some of these charms are common for treatment of most ailments as well as preventive measures. Sri Lankan traditional veterinary physicians use different shapes of branding for various diseases and also as a preventive method.

Table 1. Preparations used for different diseases and symptoms by Sri Lankan Veterinary Physicians

GASTRO INTESTINAL TRACT					
Symptoms/ Disease		prescription		Preparation and administration	
Sinhala	English	Botanical name& amount	Sinhala name		
Bade Kakkuma	Stomach-ache	<i>Alteranthera sessilis</i> 200g	<i>Mukunuwanna</i>	200g of fresh entire plant of <i>Alteranthera sessilis</i> (Amaranthaceae; Sinhala: <i>Mukunuwanna</i>) are cut into small pieces and ground with 240ml of whey. 25ml of common salt water is added to the above mixture and stirred well. More whey is again added to the above mixture till the final volume becomes 375ml. Dosage: 375ml, twice a day, orally.	
Bade Gaya	Colicky Pain	<i>Cocos nucifer</i> 125g <i>Jasminum multiflorum</i> 125g <i>Phyllanthus emblica</i> 125g	<i>Pol</i> <i>Pichcha</i> <i>Nelli</i>	125g of each of inflorescences of <i>Cocos nucifer</i> (Aracaceae; Sinhala: <i>Polmal</i>), flowers of <i>Jasminum multiflorum</i> (Oleaceae; Sinhala: <i>Pichcha</i>) and pericarp of <i>Phyllanthus emblica</i> (Euphorbiaceae; Sinhala: <i>Nelli</i>) are pounded together. Vinegar is added in to the above mixture till the final volume is 375ml. Dosage: 375ml, twice a day, orally.	
Bada Pipuma	Flatulence	<i>Aloe vera</i> 100g <i>Ferula asafoetide</i> 5g	Komarika Perumkayam	100g of leaves of <i>Aloe vera</i> (Aloaceae; Sinhala: Komarika) are taken, thorns and outer skin are removed. Then, inner fleshy part of the leaves are squeezed and juice is extracted. 120ml of aforesaid juice is ground with 5g of latex of <i>Ferula asafoetide</i> (Family: Apiaceae; Sinhala name: Perumkayam). This Paste is dissolved in hot water. More hot water is added till the final volume is 375ml. Dosage: 375ml, twice a day, orally.	
Kapu kama nodiraveema	Dyspepsia	<i>Leucas zeylanica</i> 15g <i>Piper nigrum</i> 15g <i>Allium sativum</i> 15g <i>Vitex negundo</i> 30ml	<i>Geta thumba</i> <i>Gammiris</i> <i>Sudu Loonu</i> <i>Nika</i>	15g each of <i>Leucas zeylanica</i> (Lamiaceae; Sinhala: Geta Thumba) leaves, seeds of <i>Piper nigrum</i> (Family: Piperaceae; Sinhala name: Gammiris) carpal of <i>Allium sativum</i> (Alliaceae; Sinhala: Sudu Loonu), are ground to a fine paste. 30ml of juice of <i>Vitex negundo</i> (Verbenaceae; Sinhala: Nika) is added and mixed. 15ml of mixture is poured in to each nostril of the cow.	
Adassiya and Thatameema	Constipation	<i>A. sativum</i> 100g <i>Acorus calamus</i> 100g <i>Crateva adansonii</i> 240ml	<i>Wadakaha</i> <i>Lunuwarana</i>	100g of each carpal of <i>A. sativum</i> and rhizome of <i>Acorus calamus</i> (Acoraceae; Sinhala: Wadakaha) are ground with 240ml juice of fresh bark of <i>Crateva adansonii</i> (Capparaceae; Sinhala: Lunuwarana). 25ml of castor oil or 25ml of vinegar is added in to the above thick juice. This mixture is given orally twice a day.	
		<i>Mashuca longifolia</i>	<i>Mee</i>	100 g of quartz rock is pulverized to powder. This is sprinkled on to coconut-shell charcoal embers. The rising smoke is directed to fumigate the anal region of the cow. Heartwood of <i>Mashuca longifolia</i> (Sapotaceae; Sinhala: Mee) is scraped using a stone and is applied to the lower palpable conjunctiva of both eyes.	
		<i>F. asafoetide</i> 50 g <i>A. sativum</i> 50 g <i>A. vera</i>		50 g each of <i>F. asafoetide</i> and of <i>A. sativum</i> latex are ground well with fresh juice of <i>A. vera</i> . Fresh juice of <i>A. vera</i> is added in to the above thick juice till the final volume is 375ml. Dosage: 375ml, twice a day, orally.	
Sidannoi, Seedan yanawata	Passing faeces mixed with Mucous	<i>Leucas zeylanica</i> 150g	<i>Geta Thumba</i>	150g of fresh leaves of <i>Leucas zeylanica</i> (Lamiaceae; Sinhala: Geta Thumba) are cut into small pieces and pounded. Whey is added till the final volume is 375ml. Dose 375ml orally twice a day.	
		<i>Acalypha indica</i> 5g <i>Atalantia ceylanica</i> 5g <i>Zingiber officinale</i> 5g <i>Acacia caesia</i> <i>Citrus aurantifolia</i> 30ml	<i>Kuppameniya</i> <i>Yakinaran</i> <i>Inguru</i> <i>Hinguru pata</i> <i>Dehi</i>	5g each of <i>Acalypha indica</i> (Euphorbiaceae; Sinhala: Kuppameniya), <i>Atalantia ceylanica</i> (Rutaceae; Sinhala: Yakinaran) tender leaves, rhizome of <i>Zingiber officinale</i> (Zingiberaceae; Sinhala: Inguru) and common salt are ground with juice of <i>Acacia caesia</i> (Fabaceae; Sinhala: Hinguru pata) to a paste. 30ml of juice of <i>Citrus aurantifolia</i> (Rutaceae; Sinhala: Dehi) is mixed with above paste. 15ml of mixture is poured into each nostril of the cow.	
		<i>Annona cherimolar</i> 150g <i>Tephrosia purpurea</i> 150g <i>Ipomea obscura</i> 150g <i>Sida cordifolia</i> 150g <i>Physalis micrantha</i> 150g <i>Abelmoschus moschatus</i> 150g <i>Triumfetta rhomboides</i> 150g <i>Chrysopogon aciculatus</i> 150g	<i>Anoda</i> <i>Katupila</i> <i>Thal</i> <i>Babila</i> <i>Mottu</i> <i>Kapukinissa</i> <i>Apala</i> <i>Thuththiri</i>	150g of leaves of <i>Annona cherimolar</i> (Annonaceae; Sinhala: Anoda) and <i>Tephrosia purpurea</i> (Fabaceae; Sinhala: Katupila), Leaves of <i>Ipomea obscura</i> (convolvulaceae; Sinhala: Thal), <i>Sida cordifolia</i> (Malvaceae; Sinhala: Babila), <i>Physalis micrantha</i> (Solanaceae; Sinhala: Mottu) & <i>Abelmoschus moschatus</i> (Malvaceae; Sinhala: Kapukinissa) roots of <i>Triumfetta rhomboides</i> (Family: Liliaceae; Sinhala name: Apala) and <i>Chrysopogon aciculatus</i> (Poaceae; Sinhala: Thuththiri) are pounded together. 240ml of Coconut milk is added to the mixture. The mixture is boiled in an earthen pot. This mixture is given orally twice a day. Dosage: 450ml, twice a day.	

Anuppili	Constipation & Abdominal Distention	<i>Ficus racemes</i>	200g	Attikka	200g of leaves and bark of <i>Ficus racemes</i> (Moraceae; Sinhala: Attikka) are cut in to small pieces and pounded well. It is then steamed and squeezed well. Juice is extracted by adding water till the final volume is 375ml. 25ml of coconut vinegar is added in to the above juice. 400ml above juice is given orally twice a day.
Ugurata ema	Regurgitation	<i>Plectranthus amboinicus</i>	200g	Kappa-rawaliya	200g of fresh entire plant of <i>Plectranthus amboinicus</i> (Lamiaceae; Sinhala: Kapparawaliya) are cut into small pieces and pounded together and juice is extracted by adding water till the final volume is 375ml. 25ml of sesame oil is added in to the above fresh juice. Dosage: 400ml, twice a day, orally.
AyulkaiA-yulkai	Excessive Salivation	<i>F. racemosa</i> <i>Melia azedarach</i> <i>Ziziphus lucida</i>	150g 150g	Midella Eraminiya	150g each of bark of <i>F. racemosa</i> and <i>Melia azedarach</i> (Maliaceae; Sinhala: Midella) and chimney-soot are ground well. Prick the tongue of the animal with a thorn of <i>Ziziphus lucida</i> (Rhamnaceae; Sinhala: Eraminiya) and allow to bleed few drops. Then apply the medicine on the tongue.
Gini adappan	Melina	<i>Terminalia bellirica</i> <i>Cannabis sativa</i> <i>Trachyspermum roxburghianum</i> <i>Dioscorea pentaphylla</i> <i>D. pentaphylla</i>	100g 50g 50g	Bulu Ganja Asamodagam Katuwala	100g of pericarp of <i>Terminalia bellirica</i> (Combretaceae; Sinhala: Bulu) and 50g each of leaves <i>Cannabis sativa</i> (Moraceae; Sinhala: Ganja) and <i>Trachyspermum roxburghianum</i> (Apiaceae; Sinhala: Asamodagam) are cut into small pieces and ground together with juice of roots of <i>Dioscorea pentaphylla</i> (Dioscoreaceae; Sinhala: Katuwala) till it turns in to a fine paste. Roots of <i>D. pentaphylla</i> are pounded and juice extracted by squeezing and is added to the above paste till the final volume is 375ml. The mixture is boiled in an earthen pot Dosage: 375ml, twice a day, orally.

URINARY TRACT

Symptom/ Diseases		prescription		Preparation and administration	
Sinhala	English	Botanical name& amount	Sinhala name		
Nira adappan	Micturition	<i>S. cordifolia</i> 100g		100g of bark of <i>S. cordifolia</i> is cut in to small pieces and pounded. Whey is added in to the above paste till the final volume is 375ml. Dosage: 375ml, twice a day, Orally.	
Udarimari	Urinary Incontinence	<i>P. embilica</i> 125g	Miris Puhul	125g each of fruit of <i>P. embilica</i> , <i>Capsicum annum</i> (Solanaceae; Sinhala: Miris) and kernel of <i>Benincase hispida</i> (Cucurbitaceae; Sinhala: Puhul) are cut into small pieces and ground with 100ml juice of sugarcane. 25ml of Ghee is added into the above thick mixture. Dosage: 375ml, twice a day, orally.	
		<i>Capsicum annum</i> 125g			
Le Muthara kirima	Haematuria	<i>Benincase hispida</i> 125g	Anoda	150g of leaves of <i>Annona cherimolar</i> (Annonaceae; Sinhala: Anoda) and 25g of rhizome of <i>C. longa</i> are cut into small pieces and ground well together. Whey is added to the above paste till the final volume is 375ml. Dosage: 375ml, twice a day, orally.	
		<i>Annona cherimolar</i> 150g			
		<i>C. longa</i> 25g			

LOCOMOTOR

Symptom/ Diseases		prescription		Preparation and administration	
Sinhala	English	Botanical name& amount (g)	Sinhala name		
Kura pupuranta nodenu pinisa	To prevent Rupturing of Hoof			Dried faeces of pigs are collected, and then heated in an earthen pot till it is burnt to ash. 50gm of this ash is mixed with sesame oil and applied on ruptured hoof.	
Kura Dikvenawata	Overgrowth of Hoof	<i>Abrus precatorius</i> 150g <i>Cassia fistula</i> 150g	Olida Ehela		
Kema Aruchiya & Kura idimeema	Anorexia & Hoof inflammation, Laminitis	<i>Calotropis gigantea</i>	Wara	Two parts of roots of <i>Calotropis gigantea</i> (Asclepiadaceae; Sinhala: Wara) and one part of anthill-mud are ground with water till it turns into a fine paste. It is then applied on inflamed hoof.	

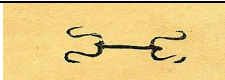
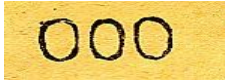
SKELITO MUSCULAR				
Symptom/ Diseases		prescription		Preparation and administration
Sinhala	English	Botanical name& amount (g)	Sinhala name	
Harakage Wane panuwan eliyata ema	To remove maggots in the wounds	<i>Erythrina variegata</i> <i>Nicotina tabacum</i> <i>Typhonium trilobatum</i> <i>Solanum xanthocarpem</i>	<i>Erabadu</i> <i>Dumkola</i> <i>Panu ala</i> <i>Batu</i>	Two parts each of leaves of <i>Erythrina variegata</i> (Fabaceae; Sinhala: Erabadu), <i>Nicotina tabacum</i> (Solanaceae; Sinhala: Dumkola), rhizome of <i>Typhonium trilobatum</i> (Araceae; Sinhala: Panu ala), fruit of <i>Solanum xanthocarpem</i> (Solanaceae; Sinhala: Batu) are cut into small pieces Two part of chimney-soot and one part of lime are added into the above mixture. The mixture is ground together till it turns to a fine paste. This past is kept over the wounds to cover the whole cavity. This paste helps to extrude maggots and promote healing.
Wane suwa weemata	To enhance the Healing of Wounds	<i>Strychnos nux - vomic</i> <i>Morinda citrifolia</i> <i>C. Longa</i>	<i>Godakaduru</i> <i>Ahu</i>	Two parts of bark of <i>Strychnos nux - vomic</i> (Loganiaceae; Sinhala: Godakaduru) are pounded with one part of brick powder. This paste is applied to cover the wound. Two parts of tender leaves of <i>Morinda citrifolia</i> (Rubiaceae; Sinhala: Ahu) and one part of rhizome of <i>C. Longa</i> are pounded together. Above paste is mixed with sesame oil and heated in an earthen pot till it cooked. This preparation is laced on the wound.
OTHER SYSTEMS				
Symptom/ Diseases		prescription		Preparation and administration
Sinhala	English	Botanical name& amount (g)	Sinhala name	
Weppu Diseases	Lethargy	<i>P. amponicus</i> 200g <i>Spondias pinnata</i> 100g <i>Cinnamomum zeylanicym</i> 100g <i>Alpinia nigra</i> 15g <i>A. sessilis</i> 15g	 <i>Wal Ambarella</i> <i>Kurundu</i> <i>Kelaniya</i>	200g of fresh entire plant of <i>P. amponicus</i> are cut in to small pieces and pounded. Juice is extracted by adding water till the final volume is 375 ml. 25 ml of sesame oil is added into the above juice and stirred well. 400ml of above juice is given orally twice a day. 100g each of leaves of <i>Spondias pinnata</i> (Anacardiaceae; Sinhala: Wal Ambarella) and <i>Cinnamomum zeylanicym</i> (Lauraceae; Sinhala: Kurundu) are pounded together. Juice is extracted by adding water till the final volume is 375ml. four eggs are mixed with above juice and stirred well. Above fresh juice is given orally twice a day. 15g each of leaves of <i>Alpinia nigra</i> (Zingiberaceae; Sinhala: Kelaniya), <i>A. sessilis</i> , orange juice are ground together.30ml of water is added to the above mixture and juice is extracted by squeezing. Then 15ml of this juice is poured in to each ear of the cow.
Anga Kadu-nuwita	Broken Horn	<i>Shorea oblongifolia</i>	<i>Dummala</i>	Resin of <i>Shorea oblongifolia</i> (Dipterocarpaceae; Sinhal: Dummala) is mixed with coconut oil. The mixture is put into an earthen pot, heated till burnt to ashes. Ash is kept over broken horn and tied with human hair. Two parts of spider web mixed with one part of lime. This paste is also applied over the broken place.
Ugure Yamak Sirawee-ma Dath Kanawata	Obstruction in the Throat Grinding of Teeth	<i>Musa paradisiaca</i> <i>Piper nigrum</i> 50g <i>Z. officinale</i>	<i>Kesel</i> <i>Gammisris</i>	A pith of <i>Musa paradisiaca</i> (Musaceae; Sinhala: Kesel) with the size of 15cm width and 30cm length is carefully inserted through the esophagus to remove the obstruction. 50g of seeds of <i>Piper nigrum</i> (Piperaceae; Sinhala: Gammisris) is ground well with juice of <i>Z. officinale</i> till it turns to fine paste. Then juice of <i>Z. officinale</i> is added to above paste till the final volume is 375 ml. Dosage: 375ml, twice a day, Orally.
Muththani	Swelling of the Head Swelling of the Throat	<i>Myristica fragrans</i> 45 g <i>Syzygium aromaticum</i> 45 g <i>Piper longum</i> 45 g <i>Carum bulbocastamum</i> 45 g <i>T. bellarica</i> 45 g <i>P. Umbelliferaecea</i> 45 g <i>Cuminum cyminum</i> 45 g <i>Z. officinale</i> 45 g <i>C. annum</i> 45 g <i>Ocimum sanctum</i> 100 g <i>Vitex nagundo</i> 100 g <i>Physalis micrantha</i> 100 g <i>A. sativum</i> 50g	<i>Sadikka</i> <i>Karabu</i> <i>Thippili</i> <i>Sudu duru</i> <i>Kalu duru</i> <i>Maduruthala</i> <i>Nika</i> <i>Mottu</i>	45 g each of fruit of <i>Myristica fragrans</i> (Family: Myristicaceae; Sinhala name: Sadikka) clove of <i>Syzygium aromaticum</i> (Family: Myrtaceae; Sinhala name: Karabu), seeds of <i>Piper longum</i> (Family: Piperaceae; Sinhala name: Thippili), <i>Carum bulbocastamum</i> (Family: Umbelliferaecea; Sinhala name: Sudu duru), pericarp of <i>T. bellarica</i> , <i>P. Umbelliferaecea</i> ; Sinhala name: Kalu duru), <i>Cuminum cyminum</i> (Family: Umbelliferaecea), rizome of <i>Z. officinale</i> and fruit of <i>C. annum</i> are pounded together till it turns to a fine paste.25ml of ghee is added to above paste and the above mixture is given orally twice a day. 100 g each of leaves of <i>Ocimum sanctum</i> (Lamiaceae; Sinhala: Maduruthala), <i>Vitex nagundo</i> (Verbenaceae; Sinhala: Nika) and <i>Physalis micrantha</i> (Solanaceae; Sinhala: Mottu) are pounded together. Juice is extracted by squeezing and water is added till the final volume is 300ml. 50g of carpel of <i>A. sativum</i> is ground well and added into above juice. 25ml vinegar is stirred well to the above fresh juice. Dosage: 375ml, twice a day, Orally.

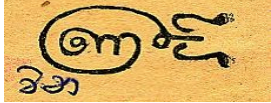
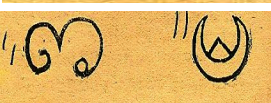
Wewlee- ma	Shivering	<i>Brassica juncea</i>	10g	<i>Aba</i>	10g each of seed of <i>Brassica juncea</i> (Brassicaceae; Sinhala: <i>Aba</i>) and <i>P. nigrum</i> are ground and mixed with 30ml of juice of <i>Acacia caesia</i> (Family: Fabaceae; Sinhala name: <i>Higurapata</i>). 15ml of this mixture is poured in to each nostril of the cow.
		<i>P. nigrum</i>	10g	<i>Hi-gurapata</i>	
		<i>Acacia caesia</i>	30ml		
		<i>A. nigra</i>	200g	<i>Yakberiya</i>	200g each of rhizome of <i>A. nigra</i> , <i>C. albiflora</i> and <i>Z. officinale</i> , root of <i>M. oleifare</i> , Leaves of <i>Crotalaria laburnifolia</i> (Fabaceae; Sinhala: <i>Yakberiya</i>), <i>Albizia amara</i> (Fabaceae; Sinhala: <i>Iha</i>) and <i>P. amboinicus</i> are pounded together. 1500ml of water is added to the above mixture and juice is extracted by squeezing. The extract is then boiled in an earthen pot. This is applied over the whole body.
		<i>C. albiflora</i>	200g	<i>Iha</i>	
		<i>Z. officinale</i>	200g		
		<i>M. oleifare</i>	200g		
		<i>Crotalaria laburnifolia</i>	200g		
		<i>Albizia amara</i>	200g		
		<i>P. amboinicus</i>			
					Apply human urine on the contusion without speaking.
Kara thalmata	Bruising of neck & Contusion	<i>Lisea glutinosa</i>		<i>Bombue</i>	Bark of <i>Lisea glutinosa</i> (Lauraceae; Sinhala: <i>Bombue</i>) is scraped and ground with common salt water. This paste is applied on the contusion.
		<i>Citrus hystrix</i>	100g	<i>Kudalu dehi</i>	100g of fruit of <i>Citrus hystrix</i> (Rutaceae; Sinhala: <i>Kudalu dehi</i>) is mixed with 240ml of water and cooked in an earthen pot. These fruits are then ground well with sesame oil. This paste is applied on contusion.
Thalma Galwuni- nam	Hardened Contusion	<i>Lagenaria sicerearia</i>	100g	<i>Diya Labu</i>	100g of kernal of <i>Lagenaria sicerearia</i> (Cucurbitaceae; Sinhala: <i>Diya Labu</i>) are boiled with 60ml of coconut milk. This paste is applied to loosen the stiffened areas.
		<i>E. variegata</i> <i>Acronychia pedunculata</i> <i>Olac zeylanica</i> <i>C. nucifera</i> <i>C. longa</i>		<i>Ankenda Malla</i>	Two parts of each of leaves and bark of <i>E. variegata</i> , <i>Acronychia pedunculata</i> (Rutaceae; Sinhala: <i>Ankenda</i>), <i>Olac zeylanica</i> (Olacaceae; Sinhala: <i>Malla</i>) and one part tender leaves of <i>C. nucifera</i> , rhizome of <i>C. longa</i> and scraped coconut are pounded together. Juice is extracted by adding water and then heated on an earthen pot till it boils. Above mixture is applied on hardened contusion.
Wassange Panu Ledata	Worm Infestation in Calves	<i>T. roxburghianum</i>	50g	<i>Gotu kola</i> <i>Rathulunu</i>	50g of each of entire plant of <i>T. roxburghianum</i> , <i>Centrella asiatica</i> (Apiaceae; Sinhala: <i>Gotu kola</i>) and carpal of <i>Allium cepa</i> (Family: Alliaceae; Sinhala name: <i>Rathulunu</i>) are boiled together and this is given orally twice a day.
		<i>Centrella asiatica</i> <i>Allium cepa</i>	50g		
		<i>Azadirachta indica</i>	100g	<i>Kohomba</i>	100g of bark of <i>Azadirachta indica</i> (Meliaceae; Sinhala: <i>Kohomba</i>) and carpal of <i>A. cepa</i> are cut in to small pieces. 750ml of water is added to the above mixture is boiled in an earthen pot till it is reduced to 375ml. Dosage: 375ml, twice a day, Orally.
		<i>A. cepa</i>	100g		
Sama Roga- yakatama	For Any Disease	<i>Cymbopogon nardus</i>	100 g	<i>Pagi-rimana</i>	100 g of each of roots of <i>Cymbopogon nardus</i> (Poaceae; Sinhala: <i>Pagirimana</i>), <i>V. negando</i> and leaves of <i>C. procera</i> , <i>Pogostemon negnenu</i> (Lamiaceae; Sinhala: <i>Kollinkola</i>) are cut in to small pieces and pounded together. 375 ml of Juice is extracted by adding water and squeezing. Above juice is heated on leathern pot till it boiled. Dosage: 375ml, twice a day, Orally.
		<i>V. negando</i> <i>C. procera</i> <i>Pogostemon negnenu</i>	100 g 100 g 100 g		
		<i>Sinakkaram</i>	10g	<i>Kollinkola</i>	10g each of powder of <i>Sinakkaram</i> , Copper Sulphate, seeds of <i>Croton tigeium</i> (Euphobaceae; Sinhala: <i>Jayapala</i>) are ground with juice of <i>L. zeylanica</i> to a fine paste and is allowed to partially dry in wither. Then small pills are prepared and dried well. These pills are dissolved in water and applied on in to the lower palpa- ble conjunctiva of cow's eyes.
		Copper Sulphate	10g		
		<i>Croton tigeium</i>	10g		
		<i>L. zeylanica</i>			

Table 2: Charms for Different Diseases

INDICATION	CHARMS
To enhance healing of the wounds	Take 5g of ash from hearth. Enchant the ash by reciting seven times, the charm (Mantra) given below. 'Om namo shrinabokanda pesi giya agnawen anubawen asawalage asawal gawayage asawal peththe wane sidhi sidhi sidhi eswahah'. Take 5g of mustard seeds. Enchant it by reciting seven times, the charm (Mantra) given below and put in to the hearth. 'Om namo sabarek dara palai sabarek dara genei sabarek gini genei sabarek gini karai. noda puthek inda mathurai.asawalage asawal gawayage asawal peththe wane panuwo seleshwa seleshwa seleshwa'
Lethargy (Weppu)	Recite following charms (Mantra). 'Om shri vishnu narayane girahakas obben piri pisadiyen wela ganda min yan yen anda weppun manda weppun pisada weppun jawara weppun kama weppun manda weppun kattarun kotta mala weppun achcharin arinus podi weppun pattumangara swamiyane po'. Recite following charms (Mantra). 'Om ishwara vishnu thrikasman wewai divya muka shri kru vishnu araksha santhu jiwaka maheswara arakshanthu dewathi thejaggan bodhimara hitawa rakshan mohu isa sita kanda sathar-gathe sarwa arakshanthu'.
To prevent diseases	Recite following charms (Mantra) 'Om muni wesamuni anayen visadi durukota araksha balakota sathvitak siddha sima bendeswah'.
For Any disease	Recite following charms (Mantra). 'Om namo shrinuni namo gringamuni namo sri wajra muni namo om akasha om patala kapala sunkri om ravi grihagan namo wata pelenden sak mudu deke wata sitinne dahasak budunne se-wane mage kesagraja patan nabagraja dakwa siyalu apranthu grahabenden sath patak sathdharana yak siddha sima benden mema watakota araksha om kre e ra nathan enthala indiran enthanwala thallin kippada irimal ennok malawel elendes erimarichchi eththap pachtubahu visadipogu poga yeswahah'.
To protect calves from Leopards	Take 240ml of milk. Enchant it by reciting the given charm (Mantra) 108 times. 'Om grin budu sarani, dham sara-ni, sanga sarani prndum sohani eswahah'.
To cure cows of non-lactation./ To Improves cow's lactation	480ml of water to be enchanted by reciting the given charm (Mantra) 'Namo Chandra gamanaya kiri muhude kiri palu gase wata inne kiri sakkumara dewatha maheswarayanange yddedi dhasak denunge kiri pudu nermitha kara-wa kiri dewu anubawayen vijamba kamala nimala sakala dhathu upula upula burulle kshira dhara shiddi sidhi matharaksharayah'.
For protection of the cattle herd.	Enchant water with the following charm (Mantra) and sprinkle water around on the cattle. 'Om ayruthn thris narupan dukkha roga vinashayathi rathanathri warsanam suba wardhan namo namk'.

Table 3: Places of Branding for Diseases

DISEASE / SYMPTOM		PLACE OF BRANDING		SHAPE OF BRANDING
English Name	Sinhala Name	English Name	Sinhala Name	
Colicky pain	Bade Gaya	Under the scapular region	Ila pita	
Laminitis	Aruchi + Kura idimuma	Under the scapular region	Ila pita	
Emaciation	Haraka Dira kettuwee-ma	Both side of divergent hair vertex at withers	Molliya depasa	
Constipation	Adassiya	Around ventral neck area	Karawata	
Nasal discharge and tremors	All adappan	Both side lateral to the thoracic vertebral columns	Depita	
Stomachache	Bade Kakkuma	When the cow is in standing posture, a posterior surface of lumbar coccygeal groove	Hellawala	
Dried tongue	Diwa Weleema	When the cow is in standing posture, a posterior surface of Lumbar coccygeal groove	Hellawala	
Flatulence	Bada Pipuma	In between the vertebral column and tuber coccygeal area	Ala pita	

Constipation & abdominal distention	Anuppili	When the cow is in standing posture, a posterior surface of right side of the lumbar coccygeal groove	Dakunu Hellawala	
		When the cow is in standing posture, a posterior surface of left side of the lumbar coccygeal groove	Wam Hallawala	
Lethargy	Weppu	In between the lumbar and coccygeal area	Dela	
Defecation with mucous	Seedan yanawa	In between the vertebral column and tuber coccygeal area	Alapita	
Passing faeces mixed with mucous	Sidannoi	When the cow is in standing posture, a posterior surface of right side of the Lumbar coccygeal	Dakunu Hellawala	
Shivering	Wewluma	Area of the position of fetlock joint	Ath deke pathu pita	
Swelling of head and neck	(Muththni)	Dorsal surface around the neck area	Bella	
Hoof diseases	Kura Ledata	When the cow is in standing posture, a posterior surface of Lumbar coccygeal groove	Hellawala	
Haematuria	Le Muthra kiri-mata	Both side lateral to the thoracic vertebral columns	Depita	
Regurgitation	Ugurata Ema	Around the Navel area	Bada dela	
Grinding of teeth	Dath kama	Area of the ulana Olecranon	Atha Poruwa	
Excess Salivation	Ayulkai	Area between thoracic and Umbilicus	Bada meda	

CONCLUSION

It is concluded that there are relatively uncommon treatment methods and practices known to traditional Sri Lankan veterinary physicians, which are worthy of dedicated in-depth research and study.

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