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## Research Article

### **Ethnobotanical survey of medicinal plants used by traditional healers in Kampong Speu province, Cambodia**

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## **Abstract**

Medicinal plants in Cambodia have been used traditionally to treat various ailments such as backache, burn, cold, cough, diarrhea, headache, malaria, post-partum, sprain, stomachache and wound. This survey aimed at conducting the ethnobotanical observation on medicinal plants used by traditional healers in Kampong Speu province, Cambodia. The survey was administered at Odonk District, Kampong Speu Province, Cambodia. The ethnobotanical data were obtained using a semi-structured questionnaire method. The questionnaire was used to interview 8 respondents who were considered as local traditional healers. It was observed that the traditional healers used 50 species of medicinal plants. These plants were distributed amongst 25 families, the most of which belong to Fabaceae (24.0%; n = 6), Poaceae (16.0%; n = 4); Lamiaceae (16.0%; n = 4),

Zingiberaceae (16.0%; n = 4), Menispermaceae (12.0%; n = 3), Phyllanthaceae (12.0%; n = 3), Rubiaceae (12.0%; n = 3) and Sapindaceae (12.0%; n = 3). The most frequently used plant's parts were stems (43.14%; n = 44), roots (21.57%; n = 22), whole plant (11.76%; n = 12) and barks (9.80%; n = 10). The medication was prepared as decoction (82.35%; n = 28) and maceration (17.65%; n = 15). Mostly, the plants were administered through oral (96.47%; n = 82) route. The reported plants are used to manage mainly such conditions as post-partum, hemorrhoids, gastroenteritis and syphilis accounted for 14.12% (n = 12), 10.59% (n = 9), 9.41% (n = 8) and 9.41% (n = 8) respectively. This study provides the documentation of the medicinal plants used by the traditional healers treat the regional dwellers living in Kampong Speu province, Cambodia. The scientific validation of the biological properties of the surveyed plants is highly recommended.

Keywords: Medicinal plant, ethnobotanical survey, traditional healer, Kampong Speu

## Introduction

Southeast Asia is the area containing biodiversity bountiful of endemic plants and animals and has a unique geological history that contributed to its rich and unique biota (Sodhi et al., 2004). The Southeast Asia contains the highest mean proportion of country-endemic bird (9%) and mammal species (11%) and the second highest proportion of country-endemic vascular plant species (25%) compared to the other tropical regions (Sodhi et al., 2010). Cambodia is located in Southeast Asia on the coast of the Gulf of Thailand and has a total area of 181,040 km<sup>2</sup> bordered by Thailand in the west, Lao in the north and Vietnam in the east. Together, with these countries, China and Myanmar, Cambodia shares the Mekong River Basin (FAO, 2011). This country is occupied by the central plain of the lower Mekong valley and bordered on three sides by the dense forested mountainous ranges, which is rich in natural resources of various non-timber products such as wildlife, fuel wood and medical plants (Mok & Steiner, 2009). While the popularity of modern medicine is expanding among the people in urban areas, the traditional medicine is widely used by those who are living in remote ones. Medicinal plants and their preparation are the most widespread of traditional medicine (de Boer & Cotingting, 2014). The Cambodian traditional medicine uses plants, animals and minerals. There is strong evidence suggesting that the indigenous Cambodian medicine has borrowed foreign theories and practices from Ayurvedic and Chinese medicine systems, which have been adapted to local beliefs and superstitions to create a medical system unique to the ancient Cambodia (Ashwell & Walston, 2008). In the remote area, the traditional medicine is the first line medical care. The parts of diverse medicinal plants such as leaves, fruits or flowers are used by the local people to manage diarrhea, fever and pain. The traditional healers also play an important role in the treatment of patients in case of impossibility of remedies. Those traditional healers in general combine superstition with medicinal plants to treat the patients (Ka et al., 2015). Chassagne et al. (2016) reported that the medicinal plants native to Cambodia are used to treat various disorders including backache, burn, fever, cough, diarrhea, headache, malaria, post-partum, sprain, stomachache and wound. These studies point out the importance of medicinal plant use among the local traditional healers in Kampong Speu province and also list some common ailments found in the area. Therefore, owing to the importance of medicinal plant use and the lack of practical and contextualized information regarding the care of these most common ailments, we decided to implement this study. This study aimed at conducting the ethnobotanical observation on medicinal plants used by the traditional healers in Kampong Speu province, Cambodia.

## Materials and methods

*Study area:* Kampong Speu province is located to the west of Phnom Penh, bordered to the north by Kampong Chhnang and Pursat provinces, to the east by Phnom Penh, to the south by Kampot and Takeo provinces and to the west by Koh Kong province. The area of the province is 7,017 km<sup>2</sup>. The topography is variable, from a large area of lowland paddy fields in the east to lowland/upland mosaics and upland forested areas in the west. Cambodia's highest mountain, Phnom Aoral with 1,813 m altitude, is located in the very north of this province. The average temperature is about 27 °C; the minimum temperature is about 16 °C. December and January are the coolest months (NIS, 2013). Kampong Speu province consists of 8 districts including Basedth, Krong Chbar Mon, Kong Pisei, Aoral, Odongk, Phnum Sruoch, Samraong Tong and Thpong, among which Odongk district was subjected to the study. Odongk district is composed of 15 communes such as Chan Saen, Cheung Roas, Chumpu Proeks, Khsem Khsant, Krang Chek, Mean Chey, Preah Srae, Prey Krasang, Trach Tong, Veal Pong, Veang Chas, Yutth Sameakki, Damnak Reang, Peang Lvea and Phnum Touch. In our observation, Veal Pong and Veang Chas communes were recruited as the study area based upon the information receiving from the District Office and the villagers in the local area (Figure 1).

*Data collection:* Ethnobotanical data was recorded according to Martin (1995). This study was carried out between February and March 2017. Four villages (Vihea Kpos, Krang Ponley, Samaki and Khleang Pram) were visited, including three in Veang Chas commune and one in Veal Pong commune. Eight traditional healers were selected to be the informants who were administered with a questionnaire included with two different parts: (1) socio-demographic information (gender, age, education and healing experience) and (2) medicinal plant uses (local plant names, plant parts, ailment management, preparation mode and administration route). The targeted traditional healers were called by phone, and the appointment was made in advance.

*Data analysis:* The collected data were represented systematically in the tabular form. The information such as botanical name, family, part used, condition managed, mode of preparation and route of administration was analyzed and generated into Bar or Pie Charts in Microsoft Excel 2016. The frequency and the percentage were used as the statistical tools.



Figure 1. Map of Kampong Speu province and the study areas

## Results

In all, 8 informants were interviewed. Among them 5 (62.5%) were male and 3 (37.5%) were female (sex ratio = 0.6) aged from 36 to 82 years old (20-39 years of age = 25%, n = 2; 40-60 years of age = 37.5%, n = 3; and > 60 years of age = 37.5%, n = 3). The traditional healers received the education of primary, secondary and high schools at 50% (n = 4), 25% (n = 2) and 12.5% (n = 1) respectively. However, 1 (12.5%) traditional healer was unschooled. The respondents experienced traditional healing from 3 to 62 years (1-19 years = 37.5%, n = 3; 20-40 years = 37.5%, n = 3; and > 40 years = 25%, n = 2) (Table 1). The traditional healers provided the information of botanical names, families, parts used, condition managed, modes of preparation and routes of administration. The recorded information was tabulated systematically as I Table 2. The recorded medicinal plants of 50 species were distributed amongst 25 families. The most predominant plant families are Fabaceae (24.0%; n = 6), Poaceae (16.0%; n = 4); Lamiaceae (16.0%; n = 4), Zingiberaceae (16.0%; n = 4), Menispermaceae (12.0%; n = 3), Phyllanthaceae (12.0%; n = 3), Rubiaceae (12.0%; n = 3) and Sapindaceae (12.0%; n = 3) (Figure 2). The most frequently used plant's parts were stems (43.14%; n = 44), roots (21.57%; n = 22), whole plant (11.76%; n = 12) and barks (9.80%; n = 10). The rhizomes, fruits, leaves and flowers accounted for 6.86% (n = 7), 2.94% (n = 3), 1.96% (n = 2) and 1.96% (n = 2) respectively (Figure 3).

Table 1. Socio-demographic characteristics of respondents

Biodata			%
Sex			
	Male	5	62.5 0
	Female	3	37.5 0
Age			
	20-39 years	2	25.0 0
	40-60 years	3	37.5 0
	> 60 years	3	37.5 0
Education			
	None	1	12.5 0
	Primary	4	50.0 0
	Secondary	2	25.0 0
	High	1	12.5 0
Healing Experience			
	01-19 years	3	37.5 0
	20-40 years	3	37.5 0
	> 40 years	2	25.0 0

Table 2: Medicinal plants used by traditional healers in Kampong Speu Province, Cambodia

Families	Scientific names	Local names	Parts used	Ailments managed	Preparation	Rroutes
Acanthaceae	<i>Andrographis paniculata</i> (Burm. f.) Wall. ex Nees	Smav bramat moa nuh	Whole plant	Malaria	Decoction	Oral
	<i>Pseuderanthemum latifolium</i> (Vahl) B. Hansen	Kra leng vek	Whole plant	Numbness	Decoction	Oral
Amaranthaceae	<i>Achyranthes bidentata</i> Blume	An daat koo	Whole plant	Diabetes	Decoction	Oral
Anacardiaceae	<i>Mangifera duperreana</i> Pierre	Svaay prey	Bark	Gastroenteritis	Decoction	Oral
Annonaceae	<i>Annona squamosa</i> L.	Tieb srok	Stems	Post-partum	Decoction	Oral
	<i>Cananga latifolia</i> Finet & Gagnep.	Chae sraeng	Stems/roots	Gastroenteritis	Decoction	Oral
	<i>Uvaria rufa</i> Blume	Voa triel svaa	Stems/roots	Post-partum	Maceration	Oral
	<i>Desmos chinensis</i> Lour.	Voa kraa aom	Stems	Post-partum	Maceration	Oral
	<i>Polyalthia evecta</i> Finet & Gagnep.	Bat phtel	Roots	Hemorrhoids	Maceration	Oral
Apocynaceae	<i>Aganeronion polymorphum</i> Pierre ex Spire	Voa thneung	Whole plant	Post-partum	Decoction	Steaming
	<i>Hemidesmus indicus</i> (L.) R. Br.	Voa veek	Stems/roots	Hemorrhoids	Maceration	Oral
	<i>Willughbeia edulis</i> Roxb.	Voa kuy	Stems	Post-partum	Maceration	Oral
	<i>Spirolobium cambodianum</i> Baill.	Daem prey tngang	Stems/roots	Cough	Maceration	Oral
	<i>Holarrhena antidysenterica</i> (L.) Wall. ex A. DC.	Tukdaohs klaa	Stems/roots	Post-partum	Maceration	Oral
Araceae	<i>Typhonium trilobatum</i> (L.) Schott	Ach choehs	Rhizomes	Itching	Decoction	Dermal
Arecaceae	<i>Borassus flabellifer</i> L.	Tnaot chmool	Flowers	Diabetes	Decoction	Oral
Asteraceae	<i>Vernonia elliptica</i> DC.	Kanlaoet chachaak	Whole plant	Syphilis	Decoction	Oral
Bonnetiaceae	<i>Ploiarium alternifolium</i> (Vahl) Melch.	Damrey pram dok	Whole plant	Syphilis	Decoction	Oral
	<i>Heliotropium indicum</i> L.	Braamaoy damrey	Whole plant	Diabetes	Decoction	Oral
	<i>Tournefortia montana</i> Lour.	Daem bangkii	Roots	Breastmilk enhancement	Decoction	Oral
Caricaceae	<i>Carica papaya</i> L.	Lhong	Roots	Syphilis	Decoction	Oral
Celastraceae	<i>Salacia chinensis</i> L.	Voa veay	Stems/roots	Hemorrhoids	Decoction	Oral
	<i>Euonymus cochinchinensis</i> Pierre	Daem koomuey	Stems	Fever	Decoction	Oral
Combretaceae	<i>Terminalia bialata</i> Steud	Popiel khae chmool	Stems/roots	Pain	Decoction	Oral
Convolvulaceae	<i>Xenostegia tridentate</i> (L.) D. F. Austin & Staples	Voa krapaoet chnieng	Whole plant	Gastroenteritis	Decoction	Oral
Cucurbitaceae	<i>Coccinia indica</i> Wrigh and Arnott	Baas	Stems	Diabetes	Decoction	Oral
Dilleniaceae	<i>Dillenia hookeri</i> Pierre	Phlu bat	Stems	Hemorrhoids	Maceration	Oral
	<i>Dillenia ovata</i> wall. ex Hook. f. et thomson	Phlu thom	Stems/roots	Breastmilk enhancement	Decoction	Oral
	<i>Tetracera scandens</i> (L.) Merr.	Doahs kun	Stems	Gastroenteritis	Decoction	Oral
Dioscoreaceae	<i>Dioscorea hispida</i> Dennst.	Kdourch	Rhizomes	Fever	Decoction	Oral
Dipterocarpaceae	<i>Hopea odorata</i> Roxb.	Kokii	Roots	Flatulence	Decoction	Oral
Euphorbiaceae	<i>Acalypha indica</i> L.	Puk meat chma	Whole plant	Cough	Decoction	Oral
	<i>Euphorbia hirta</i> L.	Pneek mean	Whole plant	Cough	Decoction	Oral
	<i>Homonioia riparia</i> Lour.	Rey tuk	Stems	Fever	Decoction	Oral
	<i>Suregada multiflorum</i> (A. Juss.) Baill.	Tramuung sek	Stems	Hernia	Maceration	Oral
Fabaceae	<i>Acacia farnesiana</i> (L.) Willd.	Sambue miehs	Stems	Nasalitis	Decoction	Oral
	<i>Albizia lebeck</i> (L.) Benth.	Daem chrees	Barks	Gastroenteritis	Decoction	Oral
	<i>Caesalpinia sappan</i> L.	Sbaeng	Stems	Hernia	Maceration	Oral
	<i>Saraca declinata</i> (Jack) Miq.	Kam ronteah	Stems	Breastmilk enhancement	Decoction	Oral
	<i>Senna garrattiana</i> (Craib) H.S. Irwin & Barneby	Hay san	Stems/roots	Leucorrhea	Decoction	Oral
	<i>Desmodium heterocarpon</i> (L.) DC.	Snaeng kraabey	Stems	Post-partum	Decoction	Oral
Lamiaceae	<i>Gmelina asiatica</i> L.	An chaan	Fruits/roots	Malaria	Decoction	Oral
	<i>Leonotis nepetifolia</i> (L.) R. Br.	Smav chat rourt	Stmes/roots	Cough	Decoction	Oral

Families	Scientific names	Local names	Parts used	Ailments managed	Preparation	Rroutes
	<i>Ocimum tenuiflorum</i> L.	Mreah proew	Stems/roots	Syphilis	Decoction	Oral
	<i>Premna latifolia</i> Roxb.	Daem sang kae ploeng	Stems	Hemorrhoids	Decoction	Oral
Lauraceae	<i>Cinnamomum iners</i> Reinw. ex Blume	Choe cheaktum	Stems/roots	Post-partum	Decoction	Oral
	<i>Cinnamomum cambodianum</i> Lecomte	Teep piiruu	Barks	Hemorrhoids	Decoction	Oral
Leeaceae	<i>Leea thorelii</i> Gagnep.	Bay kdang	Stems/roots	Gastroenteritis	Decoction	Oral
Lillaceae	<i>Asparagus cochinchinensis</i> (Lour.) Merr.	Moem sam seb	Roots	Cough	Decoction	Oral
Malvaceae	<i>Abutilon indicum</i> (L.) Sweet	Tbalken	Stems	Syphilis	Decoction	Oral
Meliaceae	<i>Azadirachta indica</i> A. Juss.	Sdav	Stems/barks	Diarrhea	Decoction	Oral
Menispermaceae	<i>Coscinium usitatum</i> Pierre	Voa romiet thom	Stems	Cough	Decoction	Oral
	<i>Stephania glabra</i> (Roxb.) Miers	Komar pic moem sa	Rhizomes	Leucorrhea	Decoction	Oral
	<i>Tinospora crispa</i> (L.) Hook. f. & Thomson	Voa bandool pic	Stems	Fever	Decoction	Oral
Moraceae	<i>Ficus racemosa</i> L.	Lvie srok	Barks	Hemorrhoids	Decoction	Oral
Orchidaceae	<i>Cymbidium finlaysonianum</i> Wall. ex Lindl.	Lompeng preah ream	Stems	Leucorrhea	Decoction	Oral
Pandanaceae	<i>Pandanus humilis</i> Lour.	Rumchaek srok	Roots	Syphilis	Decoction	Oral
Passifloraceae	<i>Passiflora foetida</i> L.	Saavaav prey	Whole plant	Diabetes	Decoction	Oral
Phyllanthaceae	<i>Antidesma ghaesembilla</i> Gaertn.	Dangkieb kdaam	Barks	Syphilis	Decoction	Oral
	<i>Bridelia cambodiana</i> Gagnep.	Voa tmen Trey	Stems	Hemorrhoids	Decoction	Oral
	<i>Phyllanthus reticulatus</i> Poir.	Brapen chmool	Stems	Numbness	Maceration	Oral
Piperaceae	<i>Piper retrofractum</i> Vahl	Deyley	Fruits	Hernia	Maceration	Oral
Poaceae	<i>Bambusa vulgaris</i> Schrad. ex J.C. Wendl.	Roessey kaev	Stems	Syphilis	Decoction	Oral
	<i>Bambusa arundinacea</i> Retz.	Roessey khley	Stems	Pain	Decoction	Oral
	<i>Imperata cylindrica</i> (L.) P. Beauv.	Sbow	Leaves/flowers	Itching	Decoction	Body bath
	<i>Saccharum officinarum</i> L.	Ampoev	Stems	Gastroenteritis	Decoction	Oral
Rhamnaceae	<i>Ziziphus cambodianus</i> Pierre	Ang krang	Barks	Post-partum	Decoction	Oral
	<i>Ziziphus oenipia</i> Mill	Saang khoea	Barks	Post-partum	Decoction	Oral
Rubiaceae	<i>Gardenia obtusifolia</i> Roxb. ex Hook. f.	San teal pong mean	Stems	Breastmilk enhancement	Decoction	Oral
	<i>Hydnophytum formicarum</i> Jack	Sourt damrey	Rhizomes	Hepatitis	Decoction	Oral
	<i>Nauclea officinalis</i> (Pierre ex Pit.) Merr. & Chun.	Ktum tuk	Stems	Breastmilk enhancement	Decoction	Oral
Rutaceae	<i>Citrus hystrix</i> DC.	Krooch saec	Fruits	Numbness	Maceration	Oral
	<i>Glycosmis pentaphylla</i> (Retz.) DC.	Pleang	Roots	Gastroenteritis	Decoction	Oral
Santalaceae	<i>Viscum articulatum</i> Burm. f.	Banna kaek	Stems	Post-partum	Decoction	Oral
Sapindaceae	<i>Schleichera oleosa</i> (Lour.) Oken	Poengro	Leaves, barks	Cancer	Decoction	Oral
	<i>Allophylus serrulatus</i> Radlk.	Daem day rohat	Stems	Post-partum	Decoction	Oral
	<i>Lepisanthes rubiginosa</i> (Roxb.) Leenh.	Doon kaay	Stems	Hemorrhoids	Decoction	Oral
Simaroubaceae	<i>Brucea javanica</i> (L.) Merr.	Daem brammat moonuh	Stems	Malaria	Decoction	Oral
Sphenocleaceae	<i>Sphenoclea zeylanica</i> Gaertn.	Kandieng	Stems	Leucorrhea	Decoction	Oral
Urticaceae	<i>Pouzolzia zeylanica</i> (L.) Benn. & R. Br.	Muk chhnieng	Whole plant	Leucorrhea	Decoction	Oral
Vitaceae	<i>Cayratia trifolia</i> (L.) Domin.	Voa tradet	Roots	Hepatitis	Decoction	Oral
Zingiberaceae	<i>Anomum Kravanh</i> Pierre ex Gagnep.	Kravaan	Barks	Breastmilk enhancement	Decoction	Oral
	<i>Costus speciosus</i> (J. Koenig) Sm.	Daem tra thok	Rhizomes	Diabetes	Decoction	Oral
	<i>Zingiber cassumunar</i> Roxb.	Poen ley	Rhizomes	Numbness	Maceration	Oral
	<i>Zingiber officinale</i> Roscoe	Khny	Rhizomes	Numbness	Maceration	Oral

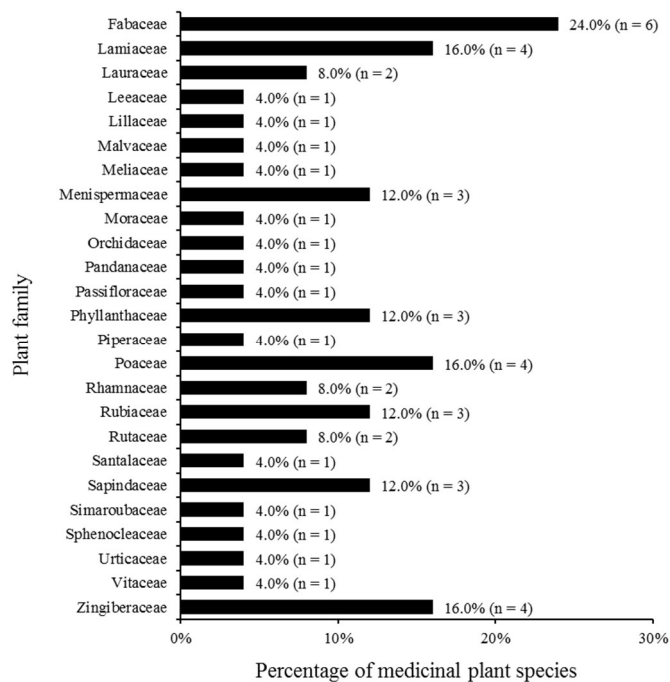


Figure 2. Percentage of used medicinal plants categorized into plant families

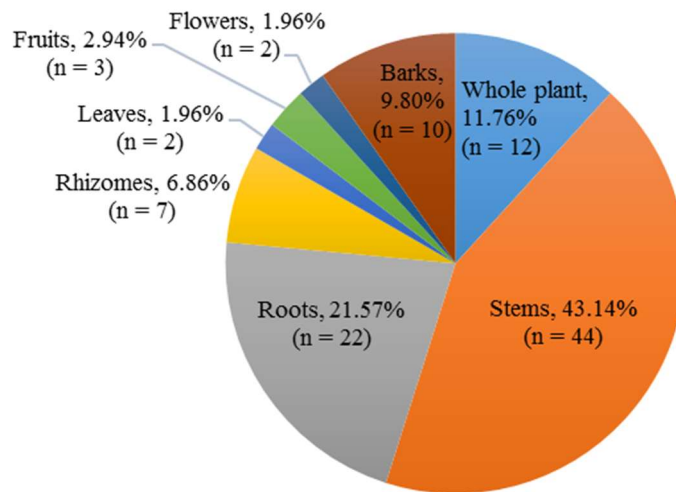


Figure 3. Distribution percentage of plant parts used

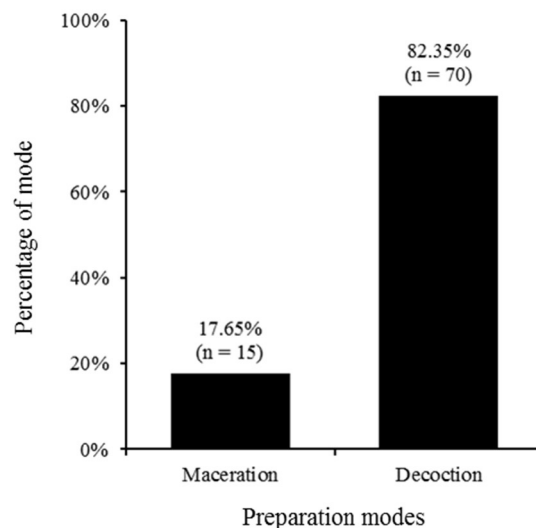


Figure 4. Modes of medicinal plant preparation

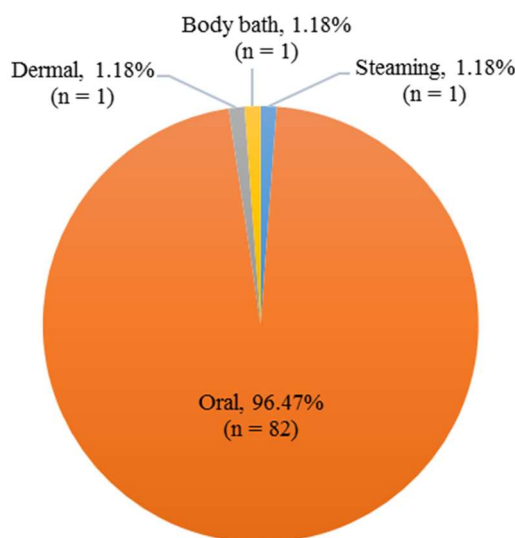


Figure 5. Routes of medicinal plant administration

Subsequent to the collection of the medicinal plants, all the traditional healers prepared those plants for the ailment treatment or management by the modes of the decoction (82.35%; n = 28) and the maceration (17.65%; n = 15) (Figure 4). Mostly, the medicinal plants were administered through oral (96.47%; n = 82) route. The other routes were dermal (1.18%; n = 1), body bath (1.18%; n = 1) and steaming (1.18%; n = 1) (Figure 5). The reported medicinal plants are used to treat and manage mainly such conditions or ailments as post-partum, hemorrhoids, gastroenteritis and syphilis accounted for 14.12% (n = 12), 10.59% (n = 9), 9.41% (n = 8) and 9.41% (n = 8) respectively (Figure 6).

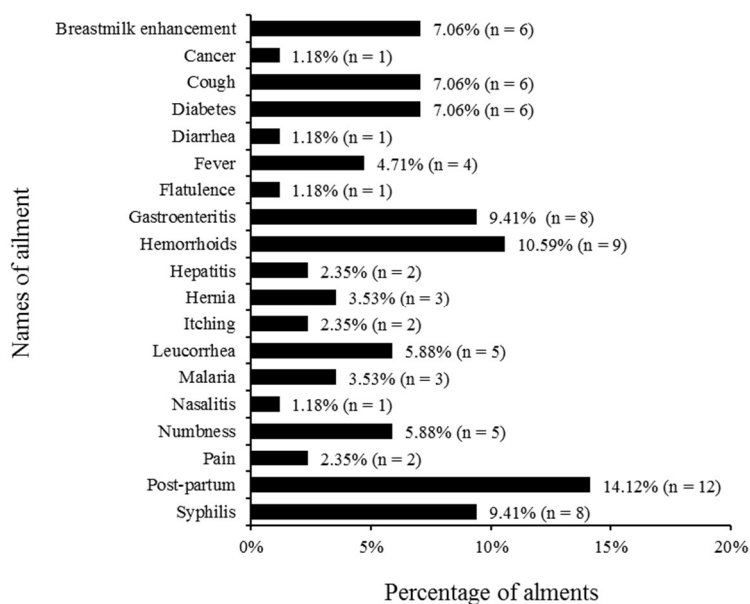


Figure 6. Ailments managed by using medicinal plants

## Discussion

The traditional healers of this survey provided the information of medicinal plant names having been used to treat the diseases of the regional people. Southeast Asia has a rich heritage of several systems of traditional medicine, many of which are in popular use (WHO, 2004). Traditional Khmer medicine includes four primary forms of care: (1) offerings to spirits; (2) dermabrasive practices; (3) maintenance of hot/cold balance; and (4) use of herbal medicine. The traditional healers utilize a large variety of medicinal plants in order to treat diseases as well as symptoms and complexes that may be quite incomprehensible in modern medicine. Different regions of the country favor their own family plants (Richman et al., 2010).

This study documented the information of different parts of medicinal plant used by traditional healers in the treatment of various illnesses (Figure 3). The active compounds containing in parts of medicinal plants possess curative and preventive characteristics of a number of diseases (Singh, 2015). Muthu et al. (2006) reported that the plant family Fabaceae, Poaceae, Lamiaceae, Menispermaceae, Rubiaceae and Sapindaceae were used by traditional healers to treat various disorders in Tamil Na-du, India. This is in accordance with our study indicating the plant species of Fabaceae, Poaceae, Lamiaceae, Menispermaceae, Rubiaceae and Sapindaceae utilized in the cure of illnesses of the local people. These families have been used to treat various diseases by folk healers (Wet & Wyk, 2008; Rahman & Parvin, 2014; Kose et al., 2015; Tugume et al., 2016). In Northeast India, Zingiberaceous plants have been used to manage gastrointestinal conditions and pulmonary disease (Tushar et al., 2010). Karou et al. (2011) reported the use of Phyllanthaceae (*Bridelia ferruginea* Benth.) by folk practitioners in the treatment of Diabetes mellitus. The preparation of medicinal plants has a long history throughout the world and can be found in the pharmacopoeias of numerous countries (Huie, 2002). Our research stated that most of the traditional healers prepare the healing plants by the decoction method (82.35%) (Figure 4), which is in accordance with Daswani et al. (2011) reporting the finding of an ethnobotanical study indicating the use of the decoction (hot aqueous extract) of local plants as a preparation mode. Maceration is used in homemade preparation of medicinal plants involved in soaking plant materials in a closed vessel with a solvent and allowed to stand at room temperature at any limited period of time so that the plant's

cell wall can be broken to release bioactive compounds (Azmir et al., 2013). Decoction uses the same principle as maceration soaking plants in boiled water. Decoction is the only suitable method for extracting heat-stable compounds, hard plants materials and usually resulted in more oil-soluble compounds compared to the maceration mode (Azwanida, 2015). The routes of administration of the remedies reported in this study were oral, dermal, body bath and streaming. However, the most common route of administration was oral (96.47%). The most common of plant drug administration by oral route was not a surprise as this has been previously reported (Yineger & Yewhalaw, 2007). The route of administration of medicinal plants could be engaged in bioactive compounds in medicinal plant extracts (Gurib-Fakim, 2006). For instance, the medicinal herbs whose bioactive agents are alkaloids are easily assimilated when administered orally while terpenoids especially essential oils are best administered by dermal routes (Boadu & Asase, 2017). Herbal medicine was reportedly used for treatment and management of 19 ailments. The medicinal plants were most commonly used for the treatment and the management of post-partum, hemorrhoids, gastroenteritis and syphilis (Figure 6). Plants have been used for the management of various ailments for centuries as their active constituents potentially contribute to therapeutic activities (Silva & Fernandes, 2010). The isolation of bioactive agents from extracts made from plants could be made to conduct detailed pharmacological and clinical investigations (Sarker & Nahar, 2012).

### **Conclusion**

Collectively, we have documented the current state of knowledge and the use of the medicinal plants for the treatment and the management of the ailments among the people living in Kampong Speu province, Cambodia. It is important to scientifically evaluate the uses of the medicinal plants reported in the current survey using plant materials from the area through further pharmacological, toxicological, and clinical research in order to ensure the safety of the people consuming medicinal plants and for possible drug development.

### **Acknowledgement**

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### **Declaration of conflict of interest**

No conflict of interest associated with this work.

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