

ETHNOMEDICINAL PLANTS IN SAN MIGUEL, BAGGAO, CAGAYAN

Airah Jane Abad

Student, School of Education, Arts and Sciences
University of Saint Louis
Tuguegarao City, Cagayan

Josephine Guerrero

Student, School of Education, Arts and Sciences
University of Saint Louis
Tuguegarao City, Cagayan

Gennifer Patay

Student, School of Education, Arts and Sciences
University of Saint Louis
Tuguegarao City, Cagayan

Jennifer Bangi

Faculty, School of Education, Arts and Sciences
University of Saint Louis
Tuguegarao City, Cagayan

© 2015 The Author(s). **Open Access** - This article is under the CC BY license (<https://creativecommons.org/licenses/by/4.0/>).



Abstract— Since time immemorial, plants have been put to medicinal use by the early groups of people which mean that medicinal plants constitute precious resources for mankind. Plants have been identified to have many uses such as food, shelter, but considering the type of living before, utilization for medicinal remedies is at its most significant heights. The objective of this study is to find out the different medicinal plants used by the people of San Miguel, Baggao. Based on the gathered data, this study aimed to provide a summarized information regarding the availability and utilization of medicinal plants in San Miguel through a pamphlet for the purpose of giving information to the natives as well as other readers as to what particular plants can be used to cure common ailments. Data were gathered through interview while plant specimen was identified and documented according to the ailments healed. This study was able to document 41 different medicinal plants used by 47 families. Mainly, the plants identified were used in treating 36 common ailments with respect to the parts utilized and the mode of preparation.

Keywords— *Medicinal Plants, San Miguel, Baggao, Cagayan*

INTRODUCTION

Plants have been used for alleviating human suffering from the very beginning of human civilization, and records of the use of plants are available since about 5000 years ago (G.D. Singh Surjeet Singh A. Kaul, 2010). Indigenous cultures used herbs in their healing rituals, while others developed traditional medical systems in which herbal therapies were used. This proves that from the beginning of human civilization, people have been indebted to the nature. The active principles isolated, have provided leads in the development of several lifesaving drugs, which are in use today. Different civilizations developed their own indigenous system of medicines. Historically, about two centuries ago, our medicinal practices were largely dominated by plant-based medicines (Gupta,2002).

All around the world there is talk about ‘health for all’ but it has been realized that modern pharmaceuticals are and will remain out of reach of a large proportion of the human population for the foreseeable future. This necessitates the use of other sources of human knowledge to provide common health benefits. Thus, herbal medicine is now regarded as important and still in the process of further study. The World Health Organization (WHO) recognized this fact in the early 1970s and encouraged governments to effectively utilize local knowledge of herbal medicines for disease prevention and health promotion.

Traditional herbal medicine has been popular in Philippines for a long time now. Herbs had been used as an effective tool for treating ailments before the introduction of modern medicines. In the past years, public dissatisfaction with the cost of prescription medications, combined with an interest in returning to natural or organic remedies, has led to an increase in herbal medicine use (World Health Organization, 2003).

Today, herbs are used to promote the overall health as well as to treat common ailments. The use of natural plants as medicine is still working among various tribal people particularly in the remote areas. Recently, the World Health Organization estimated that 80% of people worldwide rely on herbal medicines for some part of their primary health care and become indispensable for its survival (World Health Organization, 2003).

In spite of the overwhelming influences and the dependence on modern medicine and tremendous advances in synthetic drugs, a large segment of the world’s population still likes plants as substitutes for laboratory-made drugs. Likewise, in San Miguel, Baggao, plants are at its heights for most of the inhabitants resort mostly on what nature can give them. Because the place is far from reach of modernity, reliance on plants had become a routine in the people’s day to day living.

With the abundance of plants in the place, inhabitants utilize them in different ways. It can be as source of food, clothing, shelter and even medicine.

METHODS

This study used qualitative- quantitative design in order to obtain the desired information from the informants. The locality of San Miguel was chosen as the study site primarily because of the location and the abundance of plants in the place. The location of the place made it ideal for the study to be conducted because modernity has not yet totally in its height. Information was obtained from 47 families residing in the place.







Plant specimens were identified and documented according to their uses and the ailments that each cures by interview method. Informants were interviewed using an interview guide to obtain the data on the utilization, mode of preparation and the ailments that each plant cures at present in their place. In this method, the informant were requested to take the interviewers on the garden or backyard, identify the plants, and describe their uses according to the parts being employed as plant specimens were photographed for documentation.







Information were tabulated in a way that plants are put together according to the ailments cured and included also in the table are the parts used and mode of preparation. Frequency and percentage are used to show the number of families who are using the different identified medicinal plants.



RESULTS

Table 1. List of Available Medicinal Plants and the Number of Users (Families) In San Miguel, Baggao

Medicinal Plants	
 <p>Local Name: Oregano Tagalog: Oregano English: Oregano Scientific Name: <i>Coleus amboinicus benth</i></p>	 <p>Local Name: Marunggay Tagalog: Malunggay English: Horse Raddish Scientific Name: <i>Moringa oleifera</i></p>

 <p>Local Name: Kamatis Tagalog: Kamatis English: Tomato Scientific Name: <i>Solanum lycopersicum linn</i></p>	 <p>Local Name: Bawang Tagalog: Bawang English: Garlic Scientific Name: <i>Allium sativum</i></p>
 <p>Local Name: Saluyut Tagalog: Saluyot English: Jute Scientific Name: <i>Corchorus catharticus blanco</i></p>	 <p>Local Name: Tarung Tagalog: Talong English: Eggplant Scientific Name: <i>Solanum melongena</i></p>
 <p>Local Name: Kutsay Tagalog: Kutsay English: Garlic chives</p>	 <p>Local Name: Kalamansi Tagalog: Kalamansi English: Lime Scientific Name: <i>Citrus</i></p>

<p>Scientific Name: <i>Allium tuberosum</i></p>	<p><i>medica</i> <i>linn.</i></p>
	
<p>Local Name: Bilunak, kubay Tagalog: Alugbati English: Malabar Spinach Scientific Name: <i>Basella alba</i></p>	<p>Local Name: Dangla Tagalog: Lagundi English: five-leaved chaste tree Scientific Name: <i>Vitex negundo</i></p>
	
<p>Local Name: Bayabas Tagalog: Bayabas English: Guava Scientific Name: <i>Psidium guajava</i> linn</p>	<p>Local Name: Sabila Tagalog: Sabila English: Aloe vera Scientific Name: <i>Aloe barbadensis</i></p>
	

<p>Local Name: Subusub Tagalog: Sambong English: Scientific Name: <i>Blumea balsamifera</i></p>	<p>Local Name: Garulan Tagalog: Balimbing English: Starfruit Scientific Name: <i>Averrhoa carambola</i> linn.</p>
	
<p>Local Name: Katuday Tagalog: Katuray English: West-indian pea Scientific Name: <i>Sesbania grandiflora</i></p>	<p>Local Name: Pandan Tagalog: Pandan English: Screw-pine Scientific Name: <i>Pandanus</i></p>
	
<p>Local Name: Parya Tagalog: Ampalaya English: Bitter MELON Scientific Name: <i>Momordica charantia</i></p>	<p>Local Name: Kalamoga Tagalog: Tsaang gubat English: Philippine tea tree Scientific Name: <i>Carmona retusa</i></p>



Local Name: Pinya
Tagalog: Pinya
English: Pineapple
Scientific Name: *Ananas comosus*

Local Name: Serpentina
Tagalog: Serpentina
English: Snake root
Scientific Name: *Rauwolfia serpentine*



Local Name: Papaya
Tagalog: Papaya
English: Melon tree
Scientific Name: *Carica papaya*

Local Name: Herba Buena
Tagalog: Yerba Buena
English: Mint
Scientific Name: *Mentha arvensis*



Local Name: lin-linnaaw
Tagalog: Ulasimang- bato, Pansit- pansitan
English: Pepper elder
Scientific Name: *Peperomia pellucida*

Local Name: Tartaraok
Tagalog: Niyog-niyogan
English: Chinese honeysuckle
Scientific Name: *Quisqualis indica*


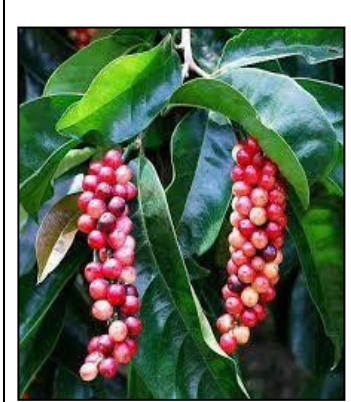


<p>Local Name: Kaimito Tagalog: Kayomito English: Star apple Scientific Name: <i>Chrysophyllum cainito</i></p>	<p>Local Name: Banaba Tagalog: Banaba English: Queens flower Scientific Name: <i>Lagerstroemia speciosa</i></p>
---	--



Local Name: Kayanga
Tagalog: Gumamela
English: Hibiscus, China rose
Scientific Name: *Hibiscus rosa-sinensis*

Local Name: Mansanilla
Tagalog: Mansanilla
English: Winter aster
Scientific Name: *Chrysanthemum indicum*



		<p>Local Name: Adelfa Tagalog: Adelfa English: Oleander Scientific Name: <i>Nerium oleander</i></p>	<p>Local Name: Dara-dara Tagalog: Mayana English: Painted nettle Scientific Name: <i>Coleus blumei</i> <i>Benth</i></p>
<p>Local Name: Abukadu Tagalog: Abokado English: Avocado Scientific Name: <i>Persea americana</i></p>	<p>Local Name: Andadasi Tagalog: Akapulko English: Ringworm bush Scientific Name: <i>Cassia alata</i></p>		
		<p>Local Name: Bugnay Tagalog: Bignay English: Salamander tree Scientific Name: <i>Antidesma bunius</i></p>	<p>Local Name: Guanaba Tagalog: Guyabano English: Soursop Scientific Name: <i>Annona muricata</i></p>
<p>Local Name: Kakao Tagalog: English: Scientific Name: <i>Theobroma cacao</i></p>	<p>Local Name: Atis Tagalog: Atis English: Sugar apple Scientific Name: <i>Annona squamosa</i></p>		
		<p>Local Name: Makabuhay Tagalog: Makabuhay English: Heavenly elixir Scientific Name: <i>Annona muricata</i></p>	<p>Local Name: Abisrana Tagalog: Katakataka English: Miracle plant Scientific Name: <i>Bryophyllum pinnatum</i></p>



Local Name: Salamagi
Tagalog: Sampalok
English: Tamarind
Scientific Name: *Tamarindus indica*



Local Name: Lumbuy
Tagalog: Duhat
English: Java plum
Scientific Name: *Syzygium cumini*



Local Name: Mabolo
Tagalog: Mabolo
English: Velvet apple
Scientific Name: *Diospyros blanco*

Table 2.a. Medicinal Plants Used For Treating Skin Problems

Medicinal Plants	Parts Used	Mode of preparation	Ailments Healed
Bayabas	Leaves	Boiling	eczema
Ampalaya	leaves	Boiling	ringworm
Yerba Buena	leaves	Extracting	Insect bites
Akapulko	leaves	Extracting	ringworm and scabies
Mayana	leaves	Pounding	bruises
Sabila	leaves	Extracting	burns
Mansanilla	leaves	Extracting	burns
Kataka- taka	leaves	Pounding	burns
Kutsay	leaves	Pounding	wounds
Mansanilla	leaves	Extracting	wounds, burns
Adelfa	leaves	Pounding	wounds

Talong	leaves	Boiling	body odor
Kalamansi	fruit	Extracting	eczema

The table shows that there are 13 different medicinal plants that the people of San Miguel are using in curing different skin problems such as ringworm, eczema, insect bites, bruises, scabies, burns, body odor and wounds. Among the 13 medicinal plants, the most used part is the leaves in which 12 plants are identified to have such part used while kalamansi is the only plant in which the fruit is being utilized. In the mode of preparation, extracting is the most commonly used where in the juice is extracted from the leaves and applied directly to the affected body parts. On the other hand, boiling method is used in 3 plants in which the leaves are boiled for five minutes, cooled and then used in bathing while in pounding, the leaves are pounded and applied directly on the affected area.

Table 2.b: Medicinal Plants Used For Treating Oral Problems

Medicinal Plants	Parts Used	Mode of preparation	Ailments Healed
Bawang	Bulb	Raw	sore throat
Bayabas	Leaves	Boiling	bad breathe
Ampalaya	Leaves	Boiling	Cough
Niyog-niyogan	leaves	Boiling	Cough
Sampalok	Fruit	Boiling	Cough
Dangla	leaves	Boiling	Cough
gumamela	,roots	boiling	Cough
Mabolo	Leaves	Boiling	Cough
Kaimito	leaves	Boiling	bad breathe
Balimbing	fruits	Raw	Asthma
Kamatis	fruit	Extracting	Asthma
Duhat	Leaves	Boiling	bad breathe
talong	leaves	boiling	sore throat

Table 2.b shows that the inhabitants of the place are employing 13 different plants in curing oral problems, to list are: bad breath, sore throat, cough and asthma. 6 plants were identified to heal cough in which 4 of it had its leaves used and one each for the fruits and roots. In this 6 medicinal plants, the method of preparation used is boiling where in the parts are boiled for few minutes, and then cooled for drinking. 3 plants are also prepared by boiling for the treatment of bad breathe where in instead of drinking it, gargling is done by the person who has such problem. Same is through is applied in curing sore throat except for garlic in which the bulb is directly eaten or chewed as candy. And for asthma, the fruit of the balimbing plant is directly consumed while in tomato, the extracted juice from the fruit is to be drunk.

Table 2.c. Medicinal Plants Used For Treating Stomach Problems

Medicinal Plants	Parts Used	Mode of preparation	Ailments Healed
Kamatis	fruit	Extracting	constipation
Tsaang gubat	leaves	Boiling	diarrhea
Serpentina	leaves	Boiling	diarrhea
Yerba Buena	Leaves	Extracting	stomach ache
Bignay	leaves	Boiling	constipation
Guyabano	fruits	Raw	diarrhea
Mabolo	Leaves	Boiling	stomach ache, diarrhea

Table 2.c shows that there are 7 available medicinal plants namely: kamatis, tsaang-gubat, serpentine yerba buena, bignay, guyabano and mabolo in San Miguel, Baggao that the people are using in treating different stomach problems which are. Out of these plants, 4 are prepared by boiling, 2 by extracting and 1 by eating raw. The common ailments that the identified plants cure are diarrhea, constipation and stomach ache.

Table 2.d. Medicinal Plants Used For Treating Swelling and Inflammation

Medicinal Plants	Parts Used	Mode of preparation	Ailments Healed
Saluyot	leaves	Extracting	swelling
Talong	fruit	Heating	swelling
Kutsay	leaves	Pounding	swelling
Pinya	Leaves	Boiling	swelling
Gumamela	Flower,leaves	Boiling	swelling
Pansit-pansitan	Leaves	Boiling	boils
Alugbati	leaves	Extracting	boils
katuday	leaves	Boiling	mumps

Table D shows that the people of San Miguel use 8 different medicinal plants for the ailments swelling and inflammation (boils, mumps). The leaves of saluyot, kutsay, pinya, gumamela, pansit-pansitan, alugbati and katuray are used in the treatment of the said ailments such that saluyot and alugbati are prepared by extracting, pinya, gumamela and, pansit-pansitan by boiling, talong by heating and kutsay by pounding. The extracted juice from saluyot and alugbati are directly applied in the swollen body parts as it is also done in the pounded leaves of kutsay. The boiled leaves of the identified medicinal plants are used for bathing while the heated talong is applied to ease the swollen body parts.

Table 2.e. Medicinal Plants Used For Treating Headache, Dizziness, Fainting, Vomiting and Convulsion

Medicinal Plants	Parts Used	Mode of preparation	Ailments Healed
Malunggay	leaves	Boiling	headache
Pandan	Leaves	Boiling	headache
Yerba buena	leaves	Extracting	headache
Atis	leaves	Boiling	dizziness, fainting
Abokado	Leaves	Boiling	convulsion
Balimbing	fruits	Raw	vomiting

The table presents that 6 out of the 41 medicinal plants are utilized in curing headache, dizziness, fainting, vomiting and convulsion where in the most frequently used part is the leaves. Same is through with the preparation of other medicinal plants, the inhabitants drink the boiled leaves of malunggay, pandan, atis and abokado.

Table 2.f. Medicinal Plants Used For Treating Fever and Dengue

Medicinal Plants	Parts Used	Mode of preparation	Ailments Healed
Lagundi	leaves	Boiling	Fever
Balimbing	fruits	Raw	Fever
Yerba buena	Leaves	Extracting	Fever
Atis	leaves	Boiling	Fever
Sampalok	Fruit	Boiling	Fever
Makabuhay	leaves	Boiling	Fever
Mabolo	Leaves	Boiling	Fever
Papaya	leaves	Extracting	dengue

Table 2.f shows that 7 identified medicinal plants are used in curing fever while only one plant is used for curing dengue. The most commonly used part is the leaves and it is prepared through boiling and extracting. For the plants prepared by extracting, the juice is taken out of it and is taken orally.

Table 2.g. Medicinal Plants Used For Treating Joint Pains

Medicinal Plants	Parts Used	Mode of preparation	Ailments Healed
Malunggay	leaves	Boiling	rheumatism
Pandan	roots	Boiling,	rheumatism
Pansit - pansitan	Leaves	Boiling	gout
Atis	leaves	Boiling	rheumatism,
Kataka - taka	leaves	Pounding	sprain
mansanilla	leaves	Heating	cramps

Table G shows that 6 medicinal plants are used in treating different joint pains such as rheumatism, arthritis, gout, sprain and cramps with the leaves as the most used part and boiling as the most frequent mode of preparation. In this

part, soaking is done after boiling the leaves and directly applied on the affected body part.

Table 2.h. Medicinal Plants Used For Treating Blood-Related Problems

Medicinal Plants	Parts Used	Mode of preparation	Ailments Healed
Ampalaya	Leaves	Boiling	hyperglycemia
Balimbing	fruits	Raw	angina
Kakao	roots	Boiling	menorrhagia

The table shows that the people of San Miguel, Baggao are using 3 different plants for the treatment of blood-related problems. For hyperglycemia, the plant employed is ampalaya where in the leaves are boiled and taken orally. As for angina, the fruits of balimbing tree are eaten directly while menorrhagia is treated by boiling the roots of the kakao plant.

Table 2.i. Medicinal Plants Used For Treating Urination Problem

Medicinal Plants	Parts Used	Mode of preparation	Ailments Healed
Sambong	Leaves	Boiling	U.T.I
Banaba	Leaves	Boiling	U.T.I

The table shows that 2 plants are used to help ease urination problem of the people in San Miguel. Sambong and banaba are both prepared by boiling and taken orally in which the leaves are the most commonly utilized part.

DISCUSSION

Of the 250,000 higher plant species on earth, more than 80,000 are medicinal and among these plants are the 42 plants that had been identified in San Miguel, Baggao. The use of medicinal plants in this place is widespread with the higher percentage of employing it in curing common ailments by the noted families.

Hundred percent of the informants are using oregano, malunggay, kamatis, bawang and saluyot as remedy for common illnesses because as much as the other plants are easily cultivated, these, too, take only some time to plant and some of these plants just grow anywhere. Out of the 41 different medicinal plants that were identified, the most common ailments to be cured are those under joint pains, to list are the following: rheumatism, arthritis, gout, sprain, and cramps, and cough and fever which are both an ailments of any ages.

Based on the users, they used the different parts of the plant in treating common illnesses, that is, every part has its

corresponding ailment cured. Leaves, being the most frequently used are found to be effective and safe made evident by the families who employed such part in curing common health problems. For example is the oregano plants which are used by 47 families. Scientifically speaking, oregano has volatile oil largely carvacrol that gives the plant its minty smell. This chemical is an antimicrobial which helps in killing microbes from cough and loosens air pathways for better breathing and for those who have asthma or breathing problem. Another example is the ampalaya leaves. The leaves of these plants have quinine, an anti-inflammatory component that helps in easing infection caused by fungi. Although the people of San Miguel, Baggao are not aware of the different components of the different leaves that they used in treating ailments, it can still be said that there is something that can be extracted in leaves that is of great help in the restoration of health.

On the other side, there are also different methods in preparing the medicinal plants and some of these are being employed by the inhabitants of the place. To list, these are boiling, extracting, drying, heating, pounding and some families are directly consuming it and basically, what they consume is the fruit. In boiling, the product is whether used in drinking or in bathing. For example is the ampalaya leaves. In curing ringworm, the boiled leaves is used in bathing while for cough, the leaves are boiled and taken orally. For heating, the heated plant is applied directly on the affected parts just like in the treatment of cramps where in the eggplant is heated in low-fire before applying in the injured boy part.

The information documented in this work is totally from primary resources based on the availability and uses of the locally available plants by the people as their household remedies. Collectively, this study what nature can do based on how the inhabitants of the place used it and the availability of such plants in the place.

CONCLUSION

There is really an abundance of medicinal plants in San Miguel, Baggao and that the people are still depending on medicinal uses of the plants for the treatment of common ailments. The dependence of the people enable them to save money from buying synthetically-made drugs and that using medicinal plants would give them a lesser health side effect. Medicinal plants had become a part of their lives and that they trust on it just like they do on synthetic drugs. These medicinal plants are trusted to cure 42 common ailments by which the inhabitants are suffering from since the light of modernity had lit up the world but not their place.

REFERENCES

- Abel, C., & Busia, K. (2005). An Exploratory Ethnobotanical Study of the Practice of Herbal Medicine by the Akan Peoples of Ghana. *Alternative Medicine Review, 10*(2), 112-122.
- Al-douri, N. A. (2000). A survey of medicinal plants and their traditional uses in Iraq. *Pharmaceutical Biology, 38*(1), 074-079
- Amano, T., Imao, T., & Takemae, K. (2010). Clinical efficacy of Japanese traditional herbal medicine (Kampo) in patients with late-onset hypogonadism. *Aging Male, 13*(3), 166-173.
- Aydin, S., Bozkaya, A. O., Mazicioğlu, M., Gemalmaz, A., Özçakir, A., & Öztürk, A. (2008). What influences herbal medicine use? - prevalence and related factors. *Turkish Journal Of Medical Sciences, 38*(5), 455-463.
- Brian M.(1997), *The powers of nature*. Department of Anthropology, United Kingdom.
- Brinkhaus, B., Hummelsberger, J., Kohnen, R., Seufert, J., Hempen, C., Leonhardy, H., & ... Schuppan, D. (2004). Acupuncture and Chinese herbal medicine in the treatment of patients with seasonal allergic rhinitis: a randomized-controlled clinical trial. *Allergy, 59*(9), 953-960.
- Chen, S. B. (2011). *New perspectives on chinese herbal medicine (zhong-yao) research and development*, Hindawi Publishing Corporation Evidence-Based Complementary and Alternative Medicine
- Crowe, S., & Lyons, B. (2004). Herbal medicine use by children presenting for ambulatory anesthesia and surgery. *Pediatric Anesthesia, 14*(11), 916-919.
- Damery, S., Gratus, C., Grieve, R., Warmington, S., Jones, J., Routledge, P., & Wilson, S. (2011). The use of herbal medicines by people with cancer: a cross-sectional survey. *British Journal Of Cancer, 104*(6), 927-933.
- Ernst, E. (1999). Herbal medications for common ailments in the elderly. *Drugs & Aging, 15*(6), 423-428
- Ernst, E. (2005). The efficacy of herbal medicine – an overview. *Fundamental & Clinical Pharmacology, 19*(4), 405-409.
- Grainger, M., & van Aarde, R. (2012). The resilience of the medicinal plant community of rehabilitating coastal dune forests, KwaZulu-Natal, South Africa. *African Journal of Ecology, 50*(1), 120-123.
- Holmes, H. M., Kaiser, K., Jackson, S., & McPherson, M. L. (2010). Soliciting an herbal medicine and supplement use history at hospice admission. *Journal of Palliative Medicine, 13*(6), 685-694.
- Jones, G. L. (2006). Traditional, current and potential uses of Australian medicinal plants. *Journal of The Australian Traditional-Medicine Society, 12*(4), 201-205.
- Kala, C. P. (2005). Indigenous uses, population density, and conservation of threatened medicinal plants in protected areas of the Indian Himalayas. *Conservation Biology, 19*(2), 368-378.
- Kamatanesi-Mugisha, M., Makawiti, D. W., Orye-Origa, H., & Nganga, J. (2007). The oxytocic properties of *Luffa cylindrica* (L.) M. Roem. and *Bidens pilosa* L., traditionally used medicinal plants from western Uganda. *African Journal Of Ecology, 4*(5) 88-93.
- Njoroge, G. N., & Kibunga, J. W. (2007). Herbal medicine acceptance, sources and utilization for diarrhoea management in a cosmopolitan urban area (Thika, Kenya). *African Journal Of Ecology, 4*(5) 65-70.
- Punnam Chander, M. P., Kartick, C., & Vijayachari, P. (2015). Herbal medicine & healthcare practices among Nicobarese of Nancowry group of Islands - an indigenous tribe of Andaman & Nicobar Islands. *Indian Journal Of Medical Research, 14*(1) 720-744.
- Rahmatullah, M., & Biswas, K. R. (2012). Traditional medicinal practices of a sardar healer of the sardar (dhangor) community of Bangladesh. *Journal of Alternative & Complementary Medicine, 18*(1), 10-19.
- Rodrigues, E., & Barnes, J. (2013). Pharmacovigilance of herbal medicines. *Drug Safety, 36*(1), 1-12. doi:10.1007/s40264-012-0005-7
- Samet, H., & Cikili, Y. (2015). Importance of medicinal and aromatic plants as an alternative crop in the rural development of Turkey. *Journal of Rural & Community Development, 10*(4), 75-84.
- Su, C., Yan, L., Lewith, G., & Liu, J. (2013). Chinese herbal medicine for idiopathic sudden sensorineural hearing loss: a systematic review of randomised clinical trials. *Clinical Otolaryngology, 38*(6), 455-473.
- Talactac, M. R., Chowdhury, M. E., Park, M., Weeratunga, P., Kim, T., Cho, W., & ... Lee, J. (2015). antiviral effects of novel herbal medicine KIOM-C, on diverse viruses. *Plos ONE, 10*(5), 1-17.
- Thakur, G., Pal, K., Mitra, A., Mukherjee, S., Basak, A., & Rousseau, D. (2010). Some common antidiabetic plants of the Indian Subcontinent. *Food Reviews International, 26*(4), 364-385.
- Wink, M. (2012). *Medicinal plants: a source of anti-parasitic Secondary metabolites*, Institute of Pharmacy and Molecular Biotechnology, INF 364, Heidelberg University, D-69120
- Wong, R. S., Cheng, G., & Chan, T. Y. (2003). Use of herbal medicines by patients receiving warfarin. *Drug Safety, 26*(8), 585.