

Ethnobotanical knowledge of “ahom” & “matak” community of Assam (India) to treat dysmenorrhea

Sabita Gogoi*, Agu Pertin, Sandeepa Agarwalla, Bhagyalakhi Baruah
Department of Life Sciences, Dibrugarh University, Dibrugarh, Assam, India

Abstract

The present study report is an approach to enshrine the rich ancestral bio cultural knowledge of Ahom (Sivasagar district) & Matak community (Dibrugarh district) of Assam (India) to treat dysmenorrhea. This study report encompasses total 17 types of medicines prepared from 25 plant species belonging to 18 families. It also clearly exhibits the procedure of preparation of medicine along with the prescribed doses. The plant parts used for the purpose are bark, stem, root, shoot apex, leaf, seed, Fruit, whole plant. On accordance with the distribution of habits, the no. of herbs, shrubs, tree, Climber are found to be 10,3,6,6 respectively.

Keywords: dysmenorrhea, ahom community & matak community, ethnobotany

Introduction

Today education and accessibility are driving rapid growth in women health globally, yet the void still remains in terms of the physical state, fitness and wholeness of women's life. Dysmenorrhea is one such frequent gynaecological outcry of the adolescent. It is extremely common dreadful menstrual cramps occurring before or during menstruation period, which negatively affect the quality of life of young female population in reproductive stage^[1]. Dysmenorrhea is categorized as primary and secondary. Primary dysmenorrhea is associated with lower abdomen pain during or before menstruation period and secondary dysmenorrhea which is more dangerous is caused by diseases or some condition such as ovarian cyst, endometriosis and infection^[2, 3]. Almost every woman worldwide suffers from painful cramp either during the time or on the onset of menstruation period. Although dysmenorrhea is not extremely debilitating but it may become serious issue during the course of time. The severe and excessive pain obstructs one from performing various normal activities and develops symptoms like depression, stress, nausea, fatigue etc. Many of the medical prescriptions are only temporary solution to the problem and usually become a daily routine rather than a permanent explanation to the complications. Therefore, there arises extreme need to address this railing cry of women all over the world and the handiest and quick remedy lies in the ethnobotanical knowledge that prevails among most of the tribal communities of the area.

Assam, the North eastern state of India is rich in both plant diversity and ethnic communities having profound traditional knowledge. There are diverse group of tribal communities in the state i.e., Boro, Kachari, Mishing, Ahom, Karbi, Matak etc. They share a special bond with the plants and use them in various aspects. One of such is in curing various ailments (both intrinsic and extrinsic). Thus one can think of documenting the use of traditional knowledge and therefore with the advancement, traditional knowledge of plant is being aimed for research work and scientific development^[4]. Dysmenorrhea can be cured by using some effective traditional practices used by different

communities with minimum side effects This study documents some indigenous knowledge of the medicinal plants used by Matak community of Dibrugarh district and Ahom community of Sivasagar district of Assam to treat dysmenorrhea.

Materials and Methods

Area of study

The research study was conducted in Sivasagar district & Dibrugarh district of Assam (Lat. 24°N to 28°N; Long. 90° E TO 96° E). Sivasagar is enrich with its heritage site and bio cultural diversity which lies in between Latitude 26°58' N; Longitude 94° 34' E with area 2,668 sq. km. It is a hub of several tribal communities such as Ahom, Chutia, Deori, Tea tribes, Kachari, Mising etc. In order to document the ethnobotanical knowledge of this area predominant community Ahom is chosen. The study was also incorporate with the Dibrugarh district whose latitude range is 27°5'38'' N to 27°42'30''N and longitude range is 94°33'46'' E to 95°29'8'' E. Total geographical area of Dibrugarh district is 3381 sq. km & the selected community of this district for the study purpose was Matak community. The predominant language spoken in both these district is Assamese.

Methods

This ethnobotanical research study was carried out from October 2019 to December 2020 in Ahom communities & Matak communities of Sivasagar & Dibrugarh district of Assam respectively. In order to collect the data, standard questionnaires' were prepared, direct interviews & friendly conversations with the local traditional healers along with various field surveys were performed & recorded. The data obtained from this folkloric people were comprised of different indigenous plants used for curing dysmenorrhea & their local name, method of preparation of medicines & their doses.

Results and Discussion

The collected data of the survey report amalgamated total 17 indigenous method used by the traditional healers of Ahom

communities & Matak communities of District Sivasagar & Dibrugarh respectively. Although total 40 folk healers were visited for this research purpose but collected number of

medicines is only 17 types as some of them practice same medicine for treating the disease. The data obtained from this investigation are documented in table 1.

Table 1: List of traditional medicines used in the treatment of Dysmenorrhea in the Ahom communities of Sivasagar & Matak communities of Dibrugarh district of Assam.

μ no.	In no.	Scientific name	Family & Habit	Local Name	Parts Used	Preparation strategies	Doses
μ 1.	i	<i>Abroma augustum</i>	Malvaceae ----- Shrub	Bon kopahi	Root & stem	Add ingredients i (5gm) & ii (7 seeds) in 750ml water for 15 minutes	Drink the decoction for 3 days prior to menstrual period for 3 continuous cycle.
	ii	<i>Piper nigrum</i>	Piperaceae -----Climber	Jaluk	Seeds		
μ 2.	i	<i>Mikania micrantha</i>	Asteraceae -----Climber	Prem lota	Shoot apex	Crush both the ingredients i (5 in number) & ii (11 seeds) & boil it for 7 minutes.	Consume it for 3 days in empty stomach during period pain.
	ii	<i>Piper nigrum</i>	Piperaceae ----- Climber	Jaluk	Seeds		
μ 3.	i	<i>Cinnamomum verum</i>	Lauraceae ----- Shrub	Dal cheni	Bark	Soak both the ingredients in a glass of water for a night, use the filtrate & add 1 teaspoon honey in it.	Drink the medicine before the menstrual period for 5 days.
	ii	<i>Glycyrrhiza glabra</i>	Fabaceae ----- Herb	Jesthi madhu	Root		
μ 4.	i	<i>Terminalia arjuna</i>	Combretaceae ----- Tree	Arjun gos	Bark	Crush ingredient i(10gm) & boil it in 400ml milk for 10 minutes, add 1 teaspoon honey in it.	Drink the decoction for 5 days during menstrual period for two successive cycle.
μ 5.	i	<i>Emblica officinalis</i>	Phyllanthaceae ----- Tree	Amlokhi	Fruit	Add ingredients i& iii (1 tablespoon each) & ii(1/2 tablespoon) in 1 glass luke warm water (use ingredients in powder form)	Drink the medicine for 3 days during menstrual period for two successive cycle.
	ii	<i>Curcuma longa</i>	Zingiberaceae ----- Herb	Halodhi	Root		
	iii	<i>Moringa oleifera</i>	Moringaceae ----- Tree	Sajina	Leaf		
μ 6.	i	<i>Ficus benghalensis</i>	Moraceae ----- Tree	Bor gos	Root	Crush ingredient i into powdery form, mix 1 tablespoon of it in 250 ml water and boil it for 5 minutes & sparate out the filterate.	Consume the medicine for 7 days prior to menstruation.
μ 7.	i	<i>Leucas aspera</i>	Lamiaceae -----Herb	Drun bon	Root	Grind the constituent I (5 root) & ii(1seed) & add 250 ml water, boil it for 5 minutes.	Drink the decoction 1 time for 3 days during menstruation for 3 successive cycle.
	ii	<i>Piper nigrum</i>	Piperaceae ----- Climber	jaluk	Seed		
μ 8.	i	<i>Cynodon dactylon</i>	Poaceae ----- Herb	Dubori bon	Whole plant with root	Extract 40 ml juice of ingredient i & add 2 spoon sugarcandy & 1 spoon honey in it.	Drink the medicine 2 times daily for 4 days during menstruation.
μ 9.	i	<i>Nelumbo nucifera</i>	Nelumbonaceae -----Herb	Podum ful	Seed	Crush both the ingredients and make a paste	Consume the medicine 1 time daily for 3 days during menstruation.
	ii	<i>Sesamum indicum</i>	Pedaliaceae ----- Herb	Boga til	Seed		
μ 10.	i	<i>Mimosa pudica L.</i>	Fabaceae -----Herb	Lajuki bon	Whole plant with root	Extract 30 ml juice from ingredient i and mix it with 1 table spoon honey.	Drink the decoction 1 time for 7 days during menstruation.
μ 11.	i	<i>Momordica charantia L.</i>	Cucurbitaceae ----- Climber	Tita kerela	Shoot apex	Grind the ingredient i and add 2 spoon honey in it.	Drink it for 3 days during menstrual period.
μ 12.	i	<i>Saraca asoca</i>	Fabaceae ----- Tree	Ashok	Bark	Extract 30 ml juice of ingredient i & mix with 100 ml water.	Consume the juice 2 time daily for 22 days.
μ 13.	i	<i>Arundinaria gigantea</i>	Poaceae ----- Shrub	Bon phool	Root	Extract 20 ml juice of ingredient i & mix 2 spoon jiggery in it.	Drink 1 time daily for 3 days during menstruation period.
μ 14	i	<i>Typhonium trilobatum</i>	Araceae ----- Herb	Chema kosu	Root	Prepare thin slice of ingredient i & insert 5 slices of it in 1 inch of ingredient ii.	Consume it during first 3 days of menstrual cycle.
	ii	<i>Musa sapientum</i>	Musaceae -----Tree	Cheni kol	fruit		
μ 15	i	<i>Lagenaria siceraria</i>	Cucurbitaceae -----Climber	Jatilao	Leaf	Make a paste of ingredient i (3leaf) & add pinch of salt in it.	Consume it in empty stomach for 3 days during menstruation.
μ 16	i	<i>Eclipta prostata</i>	Asteraceae -----Herb	Keheraj bon	Shoot apex	Make a paste of ingredient i (7 shoot apex)	Consume it for 2 days during menstruation.
μ 17	i	<i>Drymaria cordata</i>	Caryophyllaceae -----Herb	Laijabori	Shoot apex	Take 2 shoot apex of ingredient i & add adequate amount of salt and wrap it with banana leaf & boil for 7-10 minutes.	Consume the medicine for 3 days during menstruation.

μ no. –prescribed number of medicines; In no. – Ingredient number; i & ii, iii- numbering of ingredients.

The study report revealed that total 25 species of plants were used in preparing different medicines for treating the

Dysmenorrhea. Among the 17 types of medicines used by different folkloric people some medicinal plants act as

common ingredient & some plants are mixed with other food stuffs having medicinal property for its efficacy. These medicinal plants were found to be belong to total 18 families which include Malvaceae, Piperaceae, Asteraceae, Lauraceae, Fabaceae, Combretaceae, Phyllanthaceae, Zingiberaceae, Moringaceae, Moraceae, Lamiaceae, Poaceae, Nelumbonaceae, Pedaliaceae, Cucurbitaceae, Araceae, Musaceae, Caryophyllaceae. The highest no. of plants obtained from the family Piperaceae & Fabaceae with contribution of 3 plants followed by Asteraceae, Poaceae, Cucurbitaceae with contribution of 2 plants & rest of the families contributed 1 plants.

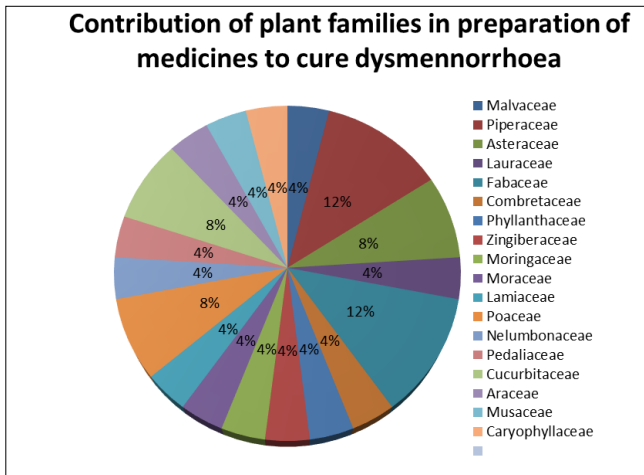


Fig 2: Percentage of plant species belonging to different families.

The preparation strategy of each medicine is different from one another & the use of plant parts also varies as per the requisite of the effectiveness of medicines. Different plant parts that were used in curative preparation were fruit, root, bark, leaf, stem, seed, shoot apex & whole body of the plant. The highest used plant part is root which is conferred by 10 different plants in making the medicines for dysmenorrhea. Then next used plant part is seed contributed by 5 different plants followed by shoot apex contributed by 4 different plants in making potential therapeutic medicines for the disease. The no. of plant species contributed by bark & stem is 3 & 1 respectively where as provided contribution of each of fruit, leaf, whole body of plant is twice in number.

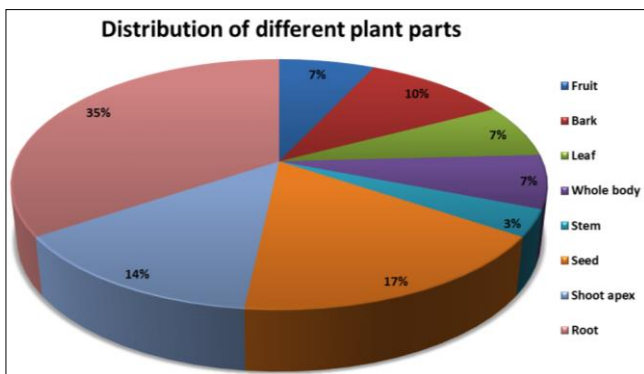


Fig 3: Representation of distribution of different plant parts used in curative preparation of medicines for treating Dysmenorrhea.

Recent research studies suggest that diet also play very significant role in getting relief in period cramps. Dietary recommendation to get relief from dysmenorrhea include

food rich in calcium, fiber, complex carbohydrate, red meat, dairy product, salt, sugar, caffeine, vitamin B supplement, fish oil supplement etc [5]. Natural antioxidants namely Vitamin B, vitamin C, B carotenoids are found to be useful in reducing pain of dysmenorrhea [6].

Table 2: List of habits of all 25 medicinal plants used in preparation of medicines for treating gynecological disorder dysmenorrhea

Serial No.	Types of Habit	No. of plants
1.	Herb	10
2.	Shrub	3
3.	Climber	6
4.	Tree	6

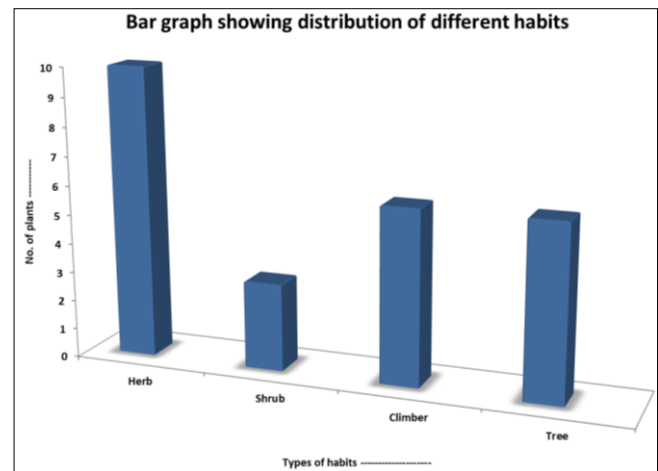


Fig 4: Representation of different habits of curative medicinal plants for healing Dysmenorrhea.

This ethnobotanical study report discloses that among 25 total species found, 10 species of plants were belong to herb & 3 species were belong to shrub & 6 plant species were belong to both climber & tree. One of the most important fact is that the prerequisite knowledge about the use of plant part in composition of medicine is very much essential otherwise it may cause some serious health issues. This is because the plant contains some secondary metabolites in addition to primary metabolites. The chemical analysis of these plant is very much essential in order to know their effective function on target organs [8, 9]. So this study is an attempt to conserve the traditional ethnobotanical knowledge of these area so that people can have easy access to these paramount information & can utilize it in further research studies.

Conclusion

The study reveals that dysmenorrheal being a common occurrence among most women, the immense role of traditionally available medicine comes into play as it is both cost effective and easily available. This conventional method of treatment would not only aid in getting rid of the problem, rather also become a potential scope of improving its effectiveness and further stretching its range of availability to the entire world in more refined and systematize form. It is extremely important for standardization of this herbal drugs for assessing and identifying the quality of the product for its better and constructive use in treatment of the disease in a more effective manner.

Reference

1. Sanogo R. Medicinal plants traditionally used in Mali for dysmenorrhea. *African Journal of Traditional, Complementary and Alternative Medicines*, 2011, 8(5S).
2. Hu Z, Tang L, Chen L, Kaminga AC, Xu H. Prevalence and risk factors associated with primary dysmenorrhea among Chinese Female University students: a cross-sectional study. *Journal of Pediatric and Adolescent Gynecology*. 2020; 33(1):15-22.
3. Johnston L. Menstrual pain (dysmenorrhoea): health. *Professional Nursing Today*. 2014; 18(1):13-14.
4. Smith R, Kaunitz A. Primary dysmenorrhea in adult women: Clinical features and diagnosis. Alphen aan den Rijn: Wolters Kluwer, 2015.
5. Saikia B, Borthakur SK, Saikia N. Medico-ethnobotany of Bodo tribals in Gohpur of Sonitpur district, Assam, 2010.
6. Kashani L, Mohammadi M, Heidari M, Akhondzadeh S. Herbal medicine in the treatment of primary dysmenorrhea, 2015.
7. Bajalan Z, Alimoradi Z, Moafi F. Nutrition as a potential factor of primary dysmenorrhea: a systematic review of observational studies. *Gynecologic and Obstetric Investigation*. 2019; 84(3):209-224.
8. Bhattacharjya DK, Borah PC. Medicinal weeds of crop fields and role of women in rural health and hygiene in Nalbari district, Assam, 2008.
9. Bhattacharjya DK, Kar A, Sarma H, Patowary KN. Notes on herbal treatment practiced by the people of fringe villages of Manas National Park, India, 2015.