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Traditional uses of some ethnomedicinal plants in Ghatal Sub-division of Paschim Medinipur district of West Bengal- A documentary report

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Abstract- Surveys were carried out to investigate and document traditional formulations of some plants used by the people of Ghatal subdivision of Paschim Medinipur district of West Bengal. Ghatal subdivision is mainly a riverine area with fertile alluvial soil with beautiful greenery. As there is profuse growth of different plants, naturally the inhabitants used them for their different livelihood purposes. The plants such as *Cocos nucifera, Canna indica, Cannabis sativa, Bombax ceiba, Aristolochia indica, Dillenia indica, Lablab purpureus, Clerodendrum indicum, Curcuma domestica, Curcuma amada, Trichosanthes dioica, Piper nigrum, Cucumis sativus, Carica papaya, Mimusops elengi* are taken into consideration. The selected plants are used traditionally to cure different diseases such as colic, piles, eczema, rheumatism, jaundice, leucorrhoea, rickette, hemicrania, menorrhagia etc. Medicines are prepared from different parts of the plants. To verify the genuineness of the folklore study, different medicine men interacted with the same plant for the same disease. But it has been noticed that a single plant with same parts is used to cure for a specific disease, but there is at least a little bit of difference to make the polyherbal/ monoherbal formulation too. This is the secrecy of medicine man in ethnobotany and here remains the need of documentation, as the formulation is transferred from generation after generation orally only. With the demise of a knowledgeable older person, their formulation diminishes. Now-a-days, most of the new generations are reluctant to the traditional system of medicine and shows their dominant dependency on modern medicine. So, to protect our different traditions including traditional medicine, our folklore, documentation of each of these is very much essential. Now-a-days, ethnopharmacological study, molecular level study also proves the genuineness of the traditional medicinal formulations. The advance molecular level studies also prove in most of the cases the exact polyherbal formulations demonstrated by medicine men shows effective molecules to prevent a specific disease. Present study deals with the primary and base level of work i.e. documentation of traditional herbal medicine used to cure different disease in the said area.

Keywords: Ghatal sub-division, riverine area, greenery, monoherbal and polyherbal formulations, folklore, documentation.

INTRODUCTION

For the time immemorial in ecosphere, animals including human being conspicuously show their pattern of living dependency and interaction on plants either symbiotically or showing a parasitism or arbitrarily/ abusing them, although a reverse phenomenon is also occurred in case of insectivorous plants. Apart from other livelihood dependency, uses of local plants for curing different diseases for the primary health care need of people are very interesting and important also. According to WHO (1988), 80% of the total population of Globe, totally dependent on traditional medicine for their primary health

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care need[1], although in most cases, the medicinal plants are remain undocumented in the selected area. The valuable medicinal plants, their mono herbal/ polyherbal formulations spread out in society from age-old to younger through oral communication only, inhabitants including researchers are reluctant to document it properly for future references in TKDL[2,3] and PBRs[2,4]. The fate is that, with the deceasing of a knowledgeable person, the brain library ruins. The major drawback lies here to carry out modern ethno-pharmacological and molecular drug discovery study because error remain at the outset, *i.e.,* the herbal formulation remains undocumented here. This is the major thirst to carry out the vigorous survey since last few years back. The Ghatal sub-division is very much beautiful and famous for its riverine scenic beauty and rich biological diversity and flood prone areal tendency.

METHODOLOGY

The documentation was done mainly through vigorous survey at remote villages of Ghatal Sub-division. The documentation work done from 2019-2021. Interaction was done with at least six medicine men/purohit thakur/herbalist in the said area. As it is purely a survey work based on traditional knowledge and folklore, there are mainly two ways the researchers found out to do the job. Firstly, the learner with the medicine men go to a forest /or an area and get acquainted with the plants of that place, their specific medicinal properties, and other uses. Alternately, sometimes the researchers picked one or two plants of their unknown base, take it to the medicine man and come to know the specific desired knowledge about them.[6] The second process is slight hectic because there is a chance of a medicine man that they may have no knowledge about that particulate. So, the researchers give priority on the first said way. During interaction mainly by semi-structured questionnaire[5], with writing matter, they take some short videos and photos of current scenario with prior permission of the medicine men simultaneously. This makes evidence of documentation. Researchers emphasised to make herbarium sheets[6] as much as possible and kept them to the Ranchi University Herbarium for future references.

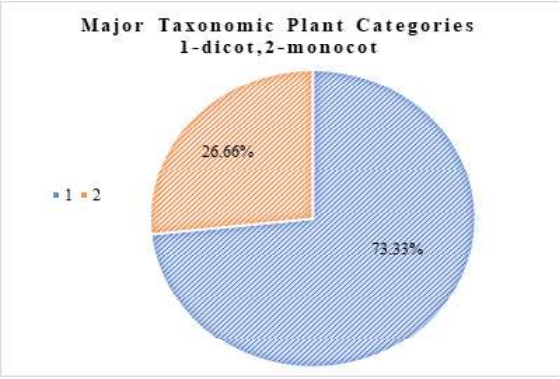
RESULT & DISCUSSION

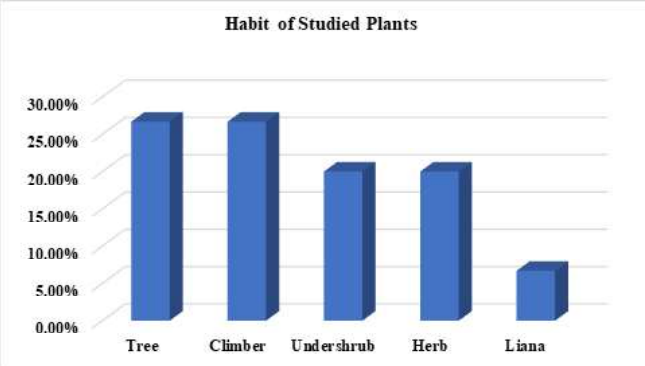
The studied plants following their local name, family, plant parts used for a specific disease/symptom, preparation of medicine and method of application of the herbal formulation are tabulated in table-1.

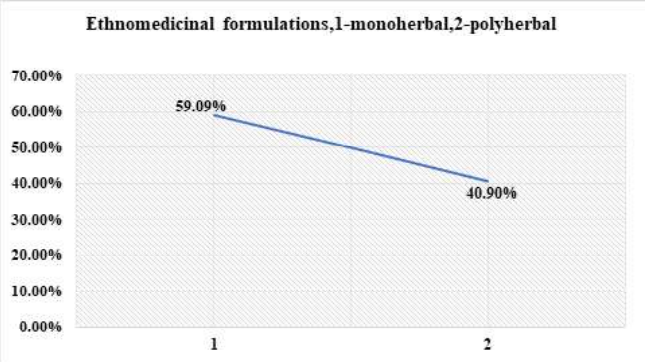
Sl. No.	Scientific name/ family/ local name	Parts used	Symptoms	Preparation of medicine	Method of application
1.	*Cocos nucifera* L./ Arecaceae/ Narkel Fig.no.1	Fruit	Colic	One coconut is taken and 50% water is to take out by a stick. Then 50 gm of ajwan + 3 pieces of pipul fruit and 4 inches yashtimadhu are grinded and mixed together and put unto the coconut. The coconut is to burn. A sweet smell will come out. Then total mixture is to grind with 100 gm of ajwan + little amount of rock salt.	The patient has to take the mixture after food thrice daily for one month to cure. Depending upon intensity of ailment the patient has to take for longer period to come round.
		Fruit oil	Eczema	The alum dust is to boil with pure coconut oil and kept in a bottle.	The oil is to rub as emollient on eczema four times in a day for 10-15 days to get good results.
2.	*Canna indica* L./ Cannaceae/ Kalabati Fig.no.3	Root	Piles	7 cm root of Kalabati plant is to grind with sugar.	It is to feed the patient twice daily for 30 days to cure.
3.	*Cannabis sativa* L./ Cannabaceae/ Ganja Fig.no.6	Whole plant	Eczema	50 gm of cow ghee + 25 gm of honey + 25 gm of ganja are mixed with coconut coir and burnt. The burnt mixture is black coloured and poisonous.	The patient has to apply the medicine on affected skin for 15-20 min. Then the place to be washed with soap carefully. This process to be continued for at least 1 month to get relief from the disease.
		Dried young inflorescence	Rheumatism (Gathia Bat)	100 gm mustard oil is to boiled in a frying pan and when the oil becomes without foam, then 10 gm grinded mixture of matted hair of hemp plant mixed in the oil. Then to filter the solution and keep the oil in a bottle. Now the oil is prepared from the matted hair of hemp-plant.	Aches and pain in the joints may be new or old – in this situation, the patient has to rub the prepared oil on the joints for few days.
4.	*Bombax ceiba* L./ Malvaceae/ Laal simul Fig.no.15	Stem bark	Piles	The stem bark of red silk cotton tree (Simul) + molasses is to grind	The patient is to drink the mixture once daily in the morning in empty stomach for five days to cure.

5.	*Aristolochia indica* L./ Aristolochiaceae/ Ishwarmool Fig.no.7	Leaf	Dermatitis	8 leaves + 2 small pieces of green turmeric is to grind.	The patient has to apply on body as ointment for 7 days to cure. In severe cases, it may be applied for 1 month to cure completely.
			Scabies	Leaf of the plant + undried turmeric is to grind with water, in which dried tobacco stem was drenched.	The extract is to rub on scabies twice daily for 10 days to cure.
		Root	Snake bite	The root of Ishwarmool plant + 2.5 pieces of black pepper in to grind.	The patient has to take the mixture during symptoms.
			Hepatic problem	The tuber of the plant is to grind, mix in a glass of water with sugar candy in the evening for whole night.	It is to drink the filtered water in the next morning in empty stomach for 3-4 days to cure.
6.	*Dillenia indica* L./ Dilleniaceae/ Chalta Fig.no.2	Stem bark	Whitlow	Stem bark of the plant is grinded and mixed with patient's saliva.	It is to apply on the place of aches and to bandage with a clean cloth gently to keep the bandage for 3 days. The bandage is to open after 3 days. Patient will be cure.
7.	*Lablab purpureus* (L.) Sweet/ Fabaceae/ Seem Fig.no.14	Leaf	Dog bite	5 drops juice of Sim plant is mixed with treacle.	It is to fed the patient in the morning in empty stomach. On the day, the patient is required to take vegetarian food.
8.	*Clerodendrum indicum* (L.) Kuntze/ Lamiaceae/ Bamanhati Fig.no.10	Stem	Toothache and caries	The stem of the plant is cut to pieces to string a garland with white thread.	It is worn with thread in hand to cure the tooth pain.
			Jaundice (Hepatitis)	The stem of the plant is cut to pieces to string a garland with white thread.	It is to wear in the neck of patient in the early morning keeping the garland in the previous evening in holy basil mancha lighting a lamp. After 7-8 days, the patient will come round and the garland will be thrown away in pond.
9.	*Curcuma domestica* Valeton/ Zingiberaceae/ Holud Fig.no.11	Rhizome	Leucorrhoea	5 cm measured green turmeric is mixed with 1 piece of amla, 1 piece of myrobalan, 1 piece of beleric myrobalan and grinded.	The grinded mixture is to take daily in the morning in empty stomach for 15 days.
10.	*Curcuma amada* Roxb./ Zingiberaceae/ Amada Fig.no.4	Rhizome	Rickette (Osteomalacia)	Amada + stem of Swarnalata is to grind to prepare extract in adequate amount.	10 gm of extract is to rub gently on the body sitting in Sun. After using the medicine for 3 days. The patient will become cure from ailment.
			Cough and catarrh	Undried rhizome is baked in fire.	It is to keep in mouth and chewed slowly to get relief of cough and catarrh.
11.	*Trichosanthes dioica* Roxb./ Cucurbitaceae/ Potol Fig. no.5	Leaf	Migrain (Hemicrania)	Equal amount juice of the plant leaf and honey is mixed.	It is to rub on the forehead to get relief from pain.
12.	*Piper nigrum* L./ Piperaceae/ Golmorich Fig.no.8	Seed	Menorrhagia	2 $^{2}/_{1}$ black pepper + 1 Gira fruit + raw milk are mixed together	The mixture is to take for 7 days in consecutive 3 months. To take the mixture prior to 10 days before starting the date of menstrual cycle in each month.
13.	*Cucumis sativus* L./ Cucurbitaceae/ Sasa Fig.no. 12	Fruit	Hepatic trouble	The internal soft portion of the cucumber is to keep in a glass of water.	It is to feed the patient several times for a few days to cure hepatic trouble.
14.	*Carica papaya* L./ Caricaceae/ Pepe Fig.no. 9	Fruit juice	Hepatitis & Hepatic problem	10 drops of milky juice of the fruit are to collect.	Patient has to take the juice with 1 cake of sugar in empty stomach in early morning for 7-9 days to cure.
15.	*Mimusops elengi* L./ Sapotaceae/ Bakul Fig.no.13	Leaf	Toothache & pyorrhoea	One leaf of bakul is to take.	The patient has to chew one leaf and brush with one leaf in the morning for few days. It will cure toothache, bad smell in mouth and pyorrhoea.

Among the 15 studied plants, 14 genera belonging to 12 families are present, out of which tree plants & climber plants show their existence by 26.66% respectively, undershrub plants & herbaceous plants show their existence by 20%, and liana plants represent 6.66%. Among all, the dicotyledonous plants represent 73.33% and monocotyledonous plants represent 26.66%. Among the different ethno-medicinal formulations, 59.09% belong to mono herbal and 40.90% belong to polyherbal.







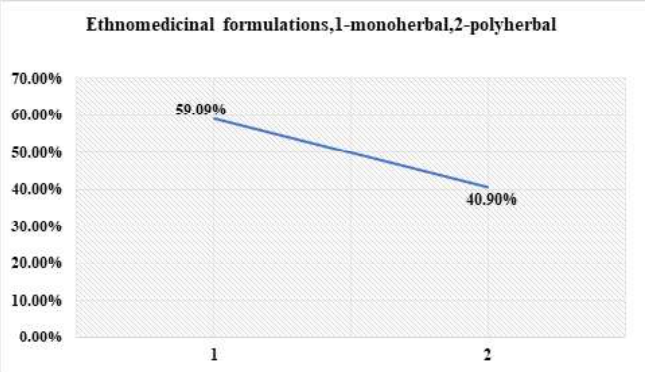



Fig. 1 *Cocos nucifera* L.


Fig. 2 *Dillenia indica* L.


Fig. 3 *Canna indica* L.


Fig. 4 *Curcuma amada* Roxb.


Fig. 5 *Trichosanthes dioica* Roxb.


Fig. 6 *Cannabis sativa* L.


Fig. 7 *Aristolochia indica* L.

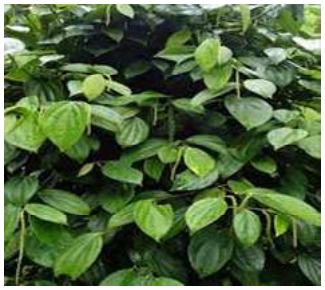


Fig. 8 *Piper nigrum* L.


Fig. 9 *Carica papaya* L.


Fig. 10 *Clerodendrum indicum* (L.)Kuntze


Fig. 11 *Curcuma domestica* Valeton


Fig. 12 *Cucumis sativus* L.


Fig. 13 *Mimusops elengi* L.


Fig. 14 *Lablab purpureus* (L.) Sweet

Fig. 15 *Bombax ceiba* L.

Fig. 16 Researcher with Mantu Mukherjee (medicine man) during interaction

CONCLUSION

During vigorous two years' survey in the remote places of the said area, the researchers felt some other sense of taste about man-plant relationship, *i.e.*, the base-line term of ethnobotany study, by keeping a good bonding with villagers, medicine men. Researchers here document such some herbal formulations which are documented first time in TKDL, PBRs. There are some documented formulations which are very simple and the source of herbal formulation *i.e.*, the plant is very abundant and frequently present all over the area, although most of the middle-aged do not aware about it, and the most unfortunate part is, youngers and little stars have no interest about their surrounding plants and essentiality. The matter is so simple to hear, but it would come as a dangerous situation in any ecosystem to survive in the era of Global Warming & climate change. Everyone should be aware and concern about it.

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