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RESEARCH ARTICLE

Folk Medicine Practices for the treatment of Abortion, Body weakness, Bronchitis, Burning sensation, Leprosy and Gout of Santal Tribal Practitioners at Jamtala Village under Sadar Upazila of Chapai Nawabganj District, Bangladesh

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Abstract

Folk medicine practices for the treatment of abortion, body weakness, bronchitis, burning sensation, leprosy and gout of Santal tribal practitioners at Jamtala village under sadar upazila of Chapai Nawabganj district, Bangladesh was carried out. Ethno-medicinal data was recorded from the Santal tribal practitioners of semi structural questionnaire, interviews and group discussions. A total of 38 plant species under 36 genera of 31 families have been documented which are used for the treatment of 6 categories of human diseases. For each species scientific name, local name, habit, family, ailments to be treated, mode of treatment and part(s) used are documented. The investigation can be concluded that the plant can considered as a suitable source of pharmaceutical industry for new drug development.

Introduction:-

Folk knowledge of the people in a given community has developed over time and is based on experience, often tested over countries of use, adapted to the local culture and environment and held by individuals or communities (Martin, 1995). This knowledge on resource utilization by human beings for a variety of purposes (medicinal, construction, food, fodder etc.) might have been established by trial and error, accumulated over thousands of years, often becomes encoded in everyday cultural practices (Byers, 2001) and (Kideghesho, 2009). Indigenous knowledge in transmitted orally from generation to generation in the form of folklore and folk sayings and contributed to the accumulation of a complex wealth knowledge and skills (Cotton, 1996; Fausayana et al, 2015). During the last few decades there has been growing interest in therapeutic use of natural products, especially those derived from plants in different countries of the world (Halim et al 2007; Iswandi, 2015; Yahia, 2014). The World Health Organization, it is estimated that 80 percent of the population of developing countries relies on traditional plant based medicines for their health requirements (WHO, 1999).

Studies on ethno-medicinal information of ethnic communities in Bangladesh are at initial stage. Several ethno-medicinal studies in Bangladesh have been carried out by Alam (1992); Alam et al (1996); Anisuzzaman et al (2007); Choudhury and Rahmatullah (2012); Faruque and Uddin (2014); Isrer et al (2015); Khan (1998, 1975); Khan et al (2015); Khisha (1996); Malek et al (2014a, 2014b); Moonmoon et al (2014); Nilima et al (2015); Rahman et al (2013a, 2013b, 2013c, 2013d); Rahman et al (2014a, 2014b, 2014c); Rahman and Akter (2013); Rahman et al (2015a, 2015b, 2015c); Rahman et al (2008a, 2008b); Rahman and Debnath (2015); Rahman et al (2010, 2012); Rahman and Gulshana (2014); Rahman and Jamila (2015); Rahman and Keya (2015); Rahman and Khanom (2013); Rahman and Parvin (2014); Rahman and Rahman (2014); Rahman and Rojonigondha (2014); Rahman (2014a, 2014b); Rahman (2013a, 2013b, 2013c, 2013d, 2013e, 2013f, 2013g, 2013h, 2013i, 2013j, 2013k, 2013l); Sadika et

al (2015) and Uddin et al (2001, 2004, 2006, 2008, 2012, 2014). In this present research article was to reported about local ethno-botanical uses of plants collected from traditional practitioners to cure six (6) human diseases at Jamtala village under sadar upazila of Chapai Nawabganj district, Bangladesh.

Materials and Methods:-

A total of twenty one field trips were made for the documentation of ethno-botanical knowledge during July 2013 to June 2015. During the field interview, the information was noted in the documentation data sheet. All the information regarding plant species, biological forms, habitat, local names and uses was documented. Medicinal information was obtained through semi-structured interviews with knowledgeable people such as local Kabiraj/Herbalists and elderly people. Plant specimens were collected with flowers and fruits and processed using standard herbarium techniques (Alexiades, 1996). The identification of plant specimens was achieved through the help of taxonomic experts and by comparison with the identified herbarium specimens and available literatures Ahmed et al (2008-2009); Aicha et al (2016); Adesina et al (2015); Boubakr et al (2015); Hooker (1961); Kechar et al (2015); Kheira et al (2015); Kirtikar and Basu (1987); Mahmoud et al (2015); Prain, (1963); Rahman (2013d, 2013g) and Saidi et al (2015). The voucher specimens are deposited at the Herbarium, Department of Botany, Rajshahi University for future reference.

Results and Discussion:-

In the present survey, a total of 38 plant species belonging to 36 genera and 31 families were recorded (Table 1). Out of these plants species, 19 (50.00%) belonged to herbs, 10 (26.31%) trees, 5 (13.15%) shrubs, and 4 (10.52%) climbers (Figure 1). For each species scientific name, local name, family, habit, mode of uses and part(s) used are provided. The most frequently used species for the treatment of different diseases are *Alstonia scholaris* (L.) R. Br., *Amaranthus spinosus* L., *Andrographis paniculata* Wall ex Nees, *Aloe vera* L., *Alocasia indica*(Roxb.) Schott., *Annanas sativus* Schult. f., *Asparagus racemosus* Willd., *Bombax ceiba* L., *Borassus flabellifer* L., *Carica papaya* L., *Commelina benghalensis* L., *Elaeocarpus robustus* Roxb., *Euphorbia hirta* L., *Moringa oleifera* Lam., *Trapa bispinosa* Roxb. *Tridax procumbens* L. and *Zingiber officinale* Roscoe.

Use of plant parts as medicine shows variation (Table 1). Leaves (28.94%) are the leading part used in a majority of medicinal plants followed by 13.15% root, 13.15% fruit, 10.52% flower, 10.52% whole plant, 7.89% bark, 2.63% stem, 2.63% seed, 2.63% gum, 2.63% oil, 2.63% young bud and 2.63% rhizome (Figure 2). Distribution of medicinal plant species in the families shows variation. Each of Acanthaceae, Amaranthaceae, Arecaceae, Asteraceae, Euphorbiaceae, Liliaceae and Malvaceae is represented by 2 species. A single species in each was recorded by 24 families (Table 1). The survey has also recorded 6 categories of uses of 38 medicinal plants. This is the indication of rich knowledge of medicinal uses of plants by the Santals in the study area. Among them, 5 (13.15%) species were used to cure abortion, 11 (28.94%) species for each of body weakness, 6 (15.78%) species for bronchitis, 9 (23.68%) species for burning sensation, 6 (15.78%) species for leprosy and 5 (13.15%) species for gout (Figure 3). The survey indicated that the common medicinal plant families in the study area are Acanthaceae, Aloeaceae, Amaranthaceae, Apocynaceae, Araceae, Arecaceae, Asteraceae, Bromeliaceae, Basellaceae, Elaeocarpaceae, Euphorbiaceae, Lamiaceae, Liliaceae, Malvaceae, Moraceae, Trapaceae and Zingiberaceae. This finding of common medicinal plant families in the study is in agreement with Anisuzzaman et al (2007); Chowdhury and Rahamatullah (2012); Ghani (2003); Halim et al (2014); Khan et al (2015); Khan (1998, 1975); Yahia (2014) and Yusuf et al (2006).

Table 1:- Medicinal plants used by Santal tribal practitioners at Jamtala under Sadar Upazila of Chapai Nawabganj District, Bangladesh.

S/N	Family name	Scientific name	Local name	Habit	Parts used	Mode of uses
1	Acanthaceae	*Andrographis paniculata* Wall ex Nees	Kalomegh	Herb	Leaf	Leaf paste is applied externally or infected area until cured leprosy.
2	Acanthaceae	*Ruellia suffruticosa* Roxb.	Chot-pote	Shrub	Root	Decoction of Roots is used in abortion.
3	Aloeaceae	*Aloe vera* (L) Burm. f.	Grita Kumara	Herb	Leaf	The juice of the leaves is used externally for burns and sprains.

						Leaves Juice mixed with sugar is used to remove body weakness specially sex problem.
4	Amaranthaceae	*Amaranthus spinosus* L.	Katanotey	Herb	Leaf	Leave paste is given to burning wounds.
5	Amaranthaceae	*Amaranthus viridis* L.	Notey	Herb	Whole plant	The plant juice mixed with water is used in leprosy.
6	Apocynaceae	*Alstonia scholaris* (L.) R. Br.	Chhatim	Tree	Root	Roots juice mixed with milk is used for leprosy.
7	Araceae	*Alocasia indica* (Roxb.) Schott.	Mankachu	Herb	Root stock	Decoction of root stock is used for leprosy.
8	Arecaceae	*Borassus flabellifer* L.	Taal	Tree	Juice	Juice obtained from the plant is used in body weakness.
9	Arecaceae	*Cocos nucifera* L.	Narikel	Tree	Oil	Coconut oil is used for burning sensation of body.
10	Asteraceae	*Enydra fluctuans* Lour	Helencha	Herb	Whole plant	Curry with fish is used in long weakness after fever.
11	Asteraceae	*Tridax procumbens* L.	Tridhara	Herb	Leaf	Crushed leaf juice mixed with water is used in bronchitis.
12	Basellaceae	*Basella alba* L.	Puishak	Climber	Leaf	Paste made from leaves is used in burning sensation.
13	Bombacaceae	*Bombax ceiba* L.	Shimul	Tree	Gum	A gum paste is used for burning sensation of body. Roots extracts mixed with boiled water are given for sexual weakness in males.
14	Brassicaceae	*Brassica napus* L.	Sorisha	Herb	Seed	Plaster of mustard is used in gout.
15	Bromeliaceae	*Annanas sativus* Schult. f.	Anaras	Herb	Flower	Young flower extract mixed with water is used in abortion.
16	Caricaceae	*Carica papaya* L.	Pepe	Tree	Fruit	Fruits pulp with bellam is used for abortion.
17	Caesalpiniaceae	*Cassia fistula* L.	Sonalu	Tree	Fruit	Fruits pulp is considered good application for gout.
18	Chenopodiaceae	*Chenopodium album* L.	Batuashak	Herb	Leaf	Decoction of flowers and buds as used in children weakness.
19	Commelinaceae	*Commelina benghalensis* L.	Kanshira	Herb	Whole plant	Decoction of whole plant is used in leprosy.
20	Elaeocarpaceae	*Elaeocarpus robustus* Roxb.	Jolpai	Tree	Fruit	Juice made from fruits is used in bronchitis.
21	Euphorbiceae	*Euphorbia hirta* L.	Dudhiya	Herb	Whole plant	Grinding decoction of whole plant is taken to cure bronchitis.
22	Euphorbiaceae	*Euphorbia antiquorum* L.	Sibgach	Shurb	Stem bark	Decoction of stem bark taken orally to cure gout.
23	Fabaceae	*Lablab purpureus* (L.) Sweet.	Shim	Climber	Leaf	Leaves paste is used for burning sensation.
24	Lilaceae	*Allium sativum* L.	Rosun	Herb	Leaf	Paste prepared from bulb is applied to the affected areas to treat leprosy.
25	Liliaceae	*Asparagus racemosus* Willd.	Shotomuli	Climber	Root	Root paste is used to cure seminal weakness.
26	Lamiaceae	*Ocimum sanctum*	Tulshi	Herb	Leaf	Slightly warmed leaf juice is used to

		L.				treat bronchitis.
27	Mimosaceae	*Acacia nilotica* (L.) Del.	Babla	Tree	Bark	Bark extracts is taken orally to cure bronchitis.
28	Malvaceae	*Abelmoschus esculentus* (L.) Moench.	Dherosh	Shurb	Fruit	Fruits juice mixed with cold water and sugar is used for Female weakness.
29	Malvaceae	*Hibiscus rosa-sinensis* L.	Joba	Shrub	Flower	Flowers paste is used for burning wounds. Juice made from flowers buds mixed with water is used in seminal weakness.
30	Moraceae	*Ficus benghalensis* L.	Bot	Tree	Young bud	Decoction of young bards is used in bronchitis.
31	Moringaceae	*Moringa oleifera* Lam.	Sojna	Tree	Root	Macerated root juice mixed with water is used for abortion.
32	Nelumbonaceae	*Nelumbo nucifera* Gaertn.	Poddo	Herb	Leaf	Paste made from leaves is used in burning sensation.
33	Nymphaeaceae	*Nymphaea nouchali* Burm. f.	Sapla	Herb	Flower	Paste made from flowers is used in burning sensation.
34	Polygonaceae	*Persicaria hydropiper* L.	Pani Morich	Herb	Flower	The juice of flowers is used against gout.
35	Piperaceae	*Piper longum* L.	Pipul	Climber	Bark	Bark extract mixed with water is used for body weakness.
36	Sterculiaceae	*Abroma augustum* (L.) f.	Ulat Kambal	Shurb	Leaf stalk	Juice made from leaf stalks is used for weakness.
37	Trapaceae	*Trapa bispinosa* Roxb.	Panifol	Herb	Fruit	Fruit juice mixed with milk is taken to cure seminal weakness.
38	Zingiberaceae	*Zingiber officinale* Roscoe.	Ada	Herb	Rhizome	Warm paste of rhizome and cotton seed is applied as a for relief gout.

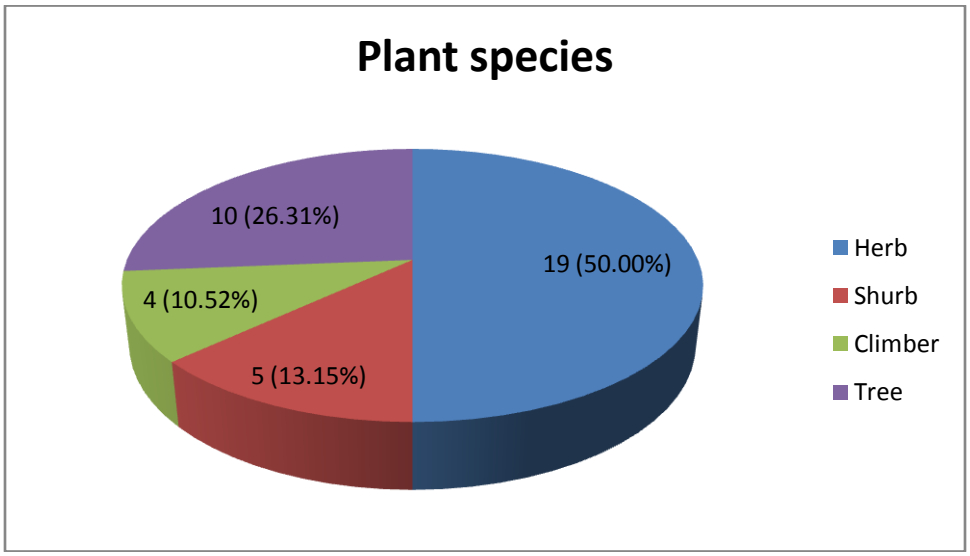

Figure 1:- Habit analysis of the recorded species in the study area.

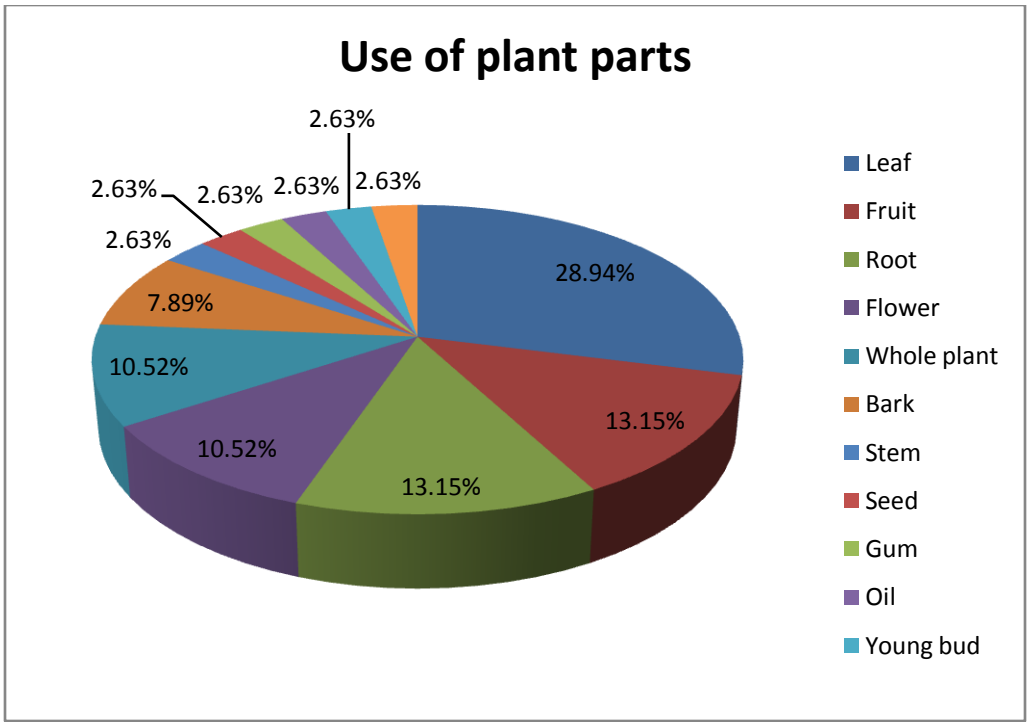

Figure 2:- Number of plant parts used for medicinal purpose.

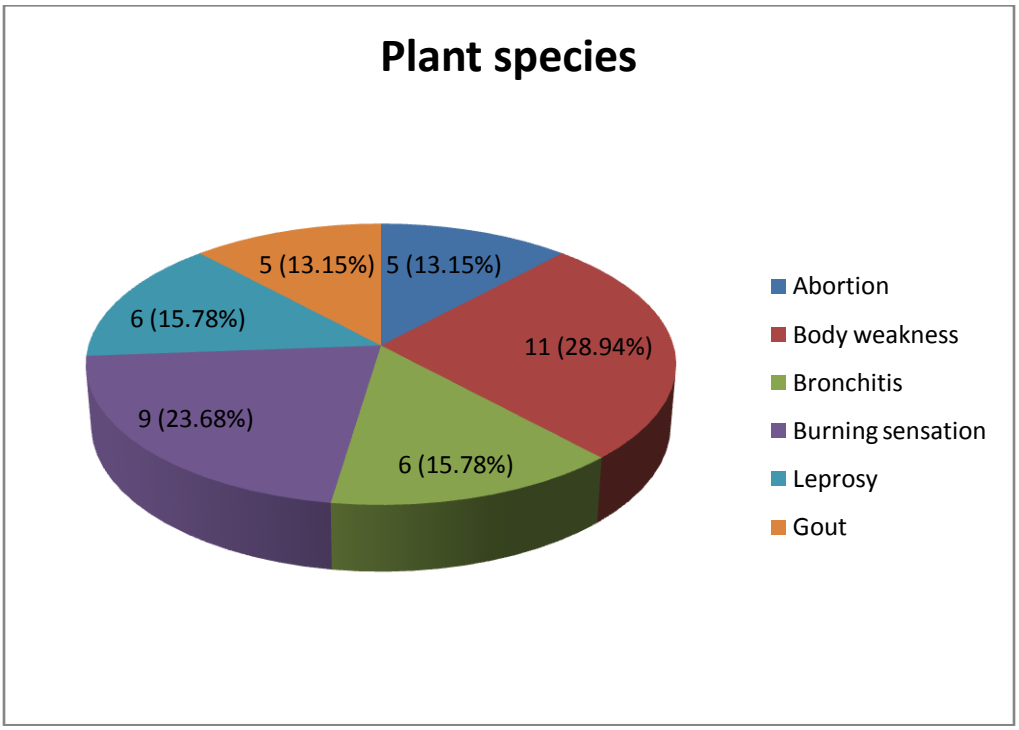

Figure 3:- Number of plant species used for ailments.

PHOTOGRAPHS OF IMPORTANT MEDICINAL PLANTS:-

Carica papaya

Alstonia scholaris

Hibiscus rosa-sinensis

Nelumbo nucifera

Cassia fistula

Commelina benghalensis

Amaranthus viridis

Acacia nilotica

Ficus benghalensis

Andrographis paniculata

Amaranthus spinosus

Alocasia indica

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