COMMON USE OF MEDICINAL PLANTS IN BANGLADESH: A SYSTEMATIC REVIEW AND META ANALYSIS

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ABSTRACT

People in developing countries traditionally rely on medicinal plants for their primary healthcare. The usage of medicinal plants is traditionally rooted in Bangladesh and still an essential part of healthcare. We conducted a systematic review and meta-analysis covering studies up to 2016 reported the common use of medicinal plants of Bangladesh. We included the ethno-medicinal plant survey studies that common used medicinal plants for treatment of diseases. After excluded finally we located 38 articles out of 433. Our qualitative review clearly demonstrates the common use of medicinal plans by the Kabiraj, local herbal practitioners and elderly community people for the diseases. Reviewed also pointed the use of medicinal plants for unique disease which is not generally treat by allopathic medicine. It is concluded that the further scientific research should be conducted towards finding novel lead compounds and unique medicinal plant be documented from ethnic group of people, experienced local Kabiraj and traditional herbal practitioners.

KEYWORDS: Medicinal plants, Bangladesh, Meta analysis.

INTRODUCTION

Since the beginning of the world, the human beings are known to have used plants as a source of medicine for the cure of diseases. Science has an interest in identifying the pattern of knowledge regarding the natural resources from the earth. The use of medicinal plants is the oldest and most popular form of healthcare practice followed by the people of all cultures an all ages in Bangladesh. The use of medicinal plants are the sum of knowledge, skills, practices and the behavior based on the theories, beliefs and experiences in indigenous to different cultures, locations and the ethnicity that are used to maintain health as well as to prevent, diagnose, improve or treatment physical or mental illness. Bangladesh is endowed with vast resources of medicinal plants. About five thousand plant species have been estimated to be present in Bangladesh, of which about 250 are reported to be used in traditional medicines for the health care of the millions of people of this country (Faruque, 2011).[4] Most of the world population relies mainly on medicinal plants for health care and more than 30% of the total plant species were used for medicinal purposes. Today, people around the world are becoming very conscious about their health and their blind dependence on allopathic medicine is decreasing day by day. Thus, people are returning to naturals with hope of safety and security. Therefore, medicinal plants and derived medicines are widely accepted worldwide and the demand for such products is increasing rapidly in the pharmaceutical industry.

Use of medicinal plants plays a major role, being the treatment of choice among substantial segments of the rural population as well as the urban poor (Rahmatullah, et al. 2010).[1] Folk medicinal practitioners are locally known in Bangladesh as Kabiraj or Vaidyas. One another decisive factor that separates the Kabiraj from practitioners of other systems of medicine is their reliance almost exclusively on medicinal plants for treatment of different diseases. One the other hand that who practiced Unani medicine (prepared medicine) is known as Hakim. The medicinal plants may be used singly or in combination, but the formulations are usually simple consisting of administration of plant juice or plant paste, administered either orally or topically. The knowledge or expertise gained by a Kabiraj through years or even decades of practice is mostly confined to himself or herself and is passed on to a successive generation of the family or to a disciple.

METHODOLOGY

We base our work on the steps for conducting a meta-analysis proposed by Cooper, H. 2009[39] selecting the sources of information; evaluating the information (the inclusion, exclusion criteria and the quality of studies); and the integrating the results of the studies (a type of meta-analysis). We also follow the recommendations of the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta Analysis), which is used in biomedical journals by Mother, D. 2009.[40] For this review and meta analysis, we identified 433 articles published from 2008 20 2016 on the basis of use of medicinal plants and ethno-medicinal survey by conducting a Google Scholar search. We included those publication-based studies on the subject of Bangladeshi community. We located 153 articles, among 96 were excluded from the current analysis because they did not fulfill our selection criteria. Out of 57 full-text articles, we excluded 19 from them, because they used medicinal plants <15 years age group and the subject were not mentioned specifically. Finally (Figure:1) we included 38 articles for qualitative synthesis, among them 21 for quantitative synthesis (meta-analysis) which studies were identified by the Bangladesh National Herbarium, Rajshahi University Herbarium, Chittagong University Herbarium and the Technical university of Munich.
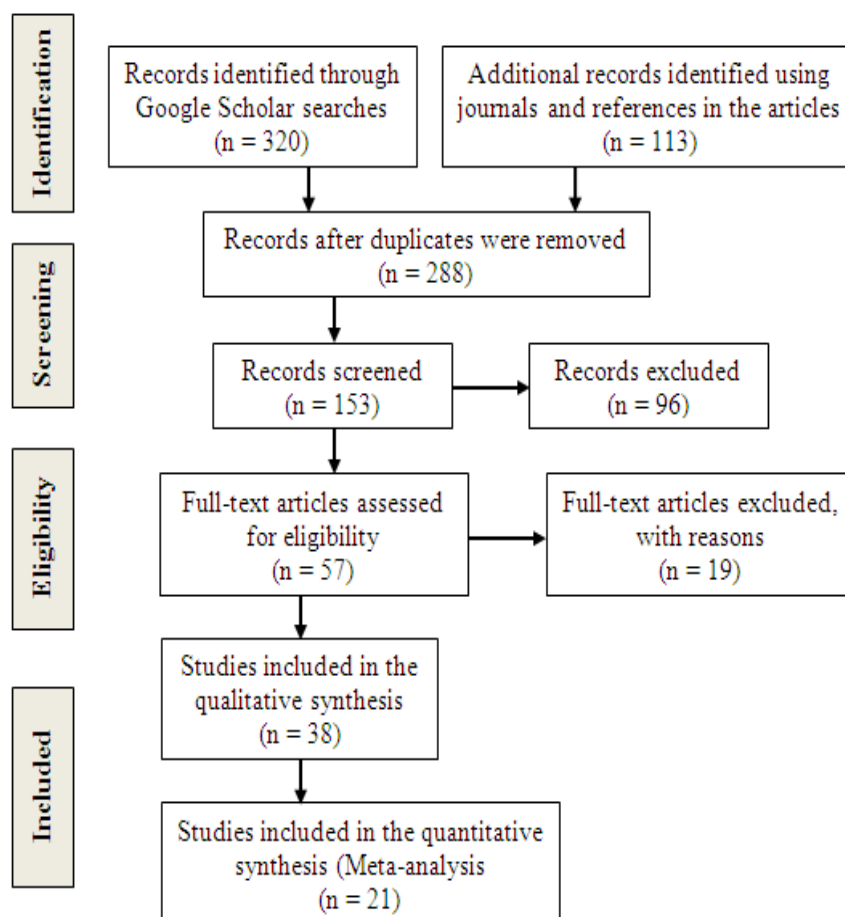
Figure 1: Flowchart summarizing the selection of ethno biological studies of common using of medicinal plants. Format proposed by Mother et al. (2009).

RESULTS

Table 1: List of studies published from 2008 to 2016 identified by Google Scholar search.

1st author, Year of publication	Study subject	Stakeholder	Level of education	Types of study	Sampling procedure & tools	Data collection procedure	Ref
Rahmatullah, M. 2010	Kabiraj	Community people	No formal education	Survey study	Convenient, SSQ	Field-walk method interview	1
Ahmed, K.M.I. 2015	Unani medicinal practitioner	Community people	No formal education	Ethno medicinal surveys	Convenient, SSQ	Field-walk method interview	2
Biswas, A. 2011	Kabiraj	Community people	No formal education	Ethno medicinal surveys	Convenient, SSQ	Field-walk method interview	3
Faruque, O. 2011	Local HP, Elderly people	Tripura Community	No formal education	Ethno-medicinal plant study	Convenient, SSQ & open-ended techniques	Field interview, Plant interview and GIT	4
Khisha, T. 2012	Chakma community	Ethnic community	< SSC to Graduate	Cross-sectional study	Random, Questionnaire	Questionnaire based field survey	5
Karmakar, P. 2012	Community people	Community people	Formal Informal	Prevalence study	Randomly, Structured questionnaire	Face to face interview	6
Khan, M.A.S.A. 2009	Rohingya community	Rohingya community	No formal education	Field visits	Randomly, SSQ	Direct observation, Face to face interview	7
Ahmed, M.N. 2014	Kabiraj	Community people	No formal education	Systematic ethno medicinal survey	Convenient, SSQ	Daytime interviews	8
Rahmatullah, M. 2009	Kabiraj	Community people	No formal education	Ethno medicinal Survey	Convenient, SSQ	Field-walk method interview	9
Yoshida, Y. 2016	Community people	Community people	Formal Informal	Cross-sectional study	Randomly, Structured questionnaire	Face-to-face interview	10
Rahmatullah, M. 2011	Vaidya	Community people	No formal education	N/M	Convenient, SSQ	Field-walk method interview	11
Kalam, A. 2015	Community people	Community people	Formal Informal	Descriptive, cross-sectional design	Randomly sampling lottery, SSQ	Face-to-face interview, HBM,	12
Rahman, A.H.M.M. 2013	Community people	Community people	Formal Informal	Medical ethno botany survey	SSQ	Face-to-face interview	13
Ocvirk, S. 2013	HP*, Diabetic patients	Community people	Formal Informal	Ethno botanical survey	Randomly, SSQ	KI interview	14
Faysal, M. 2008	FMP Disc, KU	N/M	N/M	Field survey	N/M	Literature review	15
Rahmatullah, M. 2010	Kabiraj	Community people	No formal education	Ethno-medicinal survey	SSQ	Interviews based on note-taking	16
Biswas, K.R. 2011	Kabiraj	Community people	No formal education	Survey	SSQ	Interviews, field-walk method	17
Biswas, K.R. 2011	Kabiraj	Community people	No formal education	Ethno-medicinal survey	Randomly selected, SSQ	Interviews	18
Islam, F. 2011	Kabiraj	Community people	No formal education	Ethno-medicinal survey	SSQ	Field-walk method interview	19
Mahmud S.M.N. 2016	Kabiraj, Aged people	Community people	No formal education	Survey	Randomly selected, SSQ	Field-walk method, Interview	20

Rashid, M.U. 2009	Farmers	Community people	Formal Informal	Prevalence study	Randomly, Structured questionnaire	Interview	21
Hasan, M.M. 2010	Kabiraj	Community people	No formal education	Survey	SSQ	Day time field-walk method, Interview	22
Rahman, A.H.M.M. 2015	Local Kabiraj/Ojha & elderly people	Santal tribe Community	No formal education	Ethno-Botanical Survey	SSQ	Informal field interviews, Field Trips	23
Kamal, Z. 2014	Kabiraj	Community people	No formal education	Survey	SSQ	Field-walk method, Interview	24
Rahmatullah, M. 2010	Kabiraj	Community people	No formal education	Ethno-medicinal survey	SSQ	Field-walk method, Interview	25
Rahman, A.H.M.M. 2013	Graveyard	Community people	N/M	Survey	Documentation data sheet	Documentation	26
Rahman, A.H.M.M. 2015	Kabiraj/Herbalists and elderly people	Community people	Formal Informal	Investigation	SSQ	Informal field interviews	27
Rahmatullah, M. 2010	Kabiraj	Community people	No formal education	Survey	SSQ	Field-walk method, Interview	28
Rahman, A.H.M.M. 2013	Tribal people	Community people	Formal Informal	Medico-botanical survey	SSQ	Interviews	29
Rahman, A.H.M.M. 2014	Local communities	Community people	Formal Informal	Medico-botanical survey	SSQ	Interviews	30
Rahman, A.H.M.M. 2013	Tribal people	Community people	Formal Informal	Medico ethno-medicinal survey	SSQ	Interviews	31
Haque, M.U. 2016	Pregnant women	Community people	Formal Informal	Cross-sectional health survey	Randomly, self-admis questionnaire	Self-designed standard	32
Rahman, A.H.M.M. 2015	Kabiraj/Herbalists and elderly people	Community people	No formal education	Survey	Documentation data sheet	Field interview, Field trip	33
Haque, M.A. 2014	Community people	Community people	Formal Informal	MM, Cross-sectional study,	Randomly	FGD, KII	34
Jahan, F.I. 2011	Folk medicinal practitioners	Community people	No formal education	Ethno-botanical survey	SSQ	Day time guided field-walks method	35
Azad, A.K. 2014	Kabiraj	Community people	No formal education	Ethno-medicinal survey	SSQ	Guided field-walk method	36
Shaneowaj, A.H.M. 2014	Tribal community	Pahan community	No formal education	Ethno-medicinal survey	SSQ	Guided field-walk method, OEI	37
Rahman, M.H. 2011	Older/Experienced persons	Community people	Formal Informal	Respondent survey and plot survey	Stratified random sampling & SSQ	Direct observation, Interviewing	38

Abbreviation: HP= Herbal Practitioner, SSQ= Semi-Structured Questionnaire, GIT=Group Interview Technique, CEC=Chakma Ethnic Community, MM=Mixed Method, OEI=Open-Ended Interviews, HP*=Health professionals, FMP=Faculty Member of Pharmacy, KU=Khulna University, N/M=Not mentioned.

Table 2: List of studies by Meta analysis.

Ref	Sample size	Age	Sex (n)	No of MP used	No of CP used MP	Meta analysis (n=21)
4	5	45-109	M 3 F 2	43	35	Individual sample size of meta-analysis Lowest sample value, 3 Highest sample value, 1502 Average sample value, 219
5	186	31->60	M 181 F 5	146	N/M	
6	400	20-60	M F	N/M	N/M	
7	38	<30->60	M 18 F 20	34	N/M	
8	3	61-67	M 3	15	13	Age group of study population Lowest age, 15 years Highest age, 109 years Mode age group, 15-75 years
9	8	N/M	M 8	46	33	
10	1502	15->65	M 958 F 544	N/M	N/M	
12	280	20-55	M 260 F 120	N/M	N/M	
13	150	20-75	M 80 F 70	73	42	
14	63	N/M	R 29 U 34	37	25	Lowest male participants, 3 Highest male participants, 958 Lowest female participants, 2 Highest female participants, 544 Lowest sex ratio, 0.85 Highest sex ratio, 36.2
20	29	N/M	M 18 F 11	140	65	
21	70	25-73	M 70	30	N/M	
22	8	N/M	M 5 F 3	80	45	
27	156	N/M	M 80 F 76	143	N/M	
29	250	18-70	M 142 F 108	102	52	Lowest number of Medicinal Plants used, 15 Highest number of Medicinal Plants used, 1684 Average number of Medicinal Plants used, 174
30	150	15-75	M 90 F 60	81	43	
31	120	15-75	M 70 F 50	36	43	
32	650	15->40	F 650	N/M	N/M	Lowest number of community people used Medicinal Plants, 13 Lowest number of community people used Medicinal Plants, 65 Average number of community people used Medicinal Plants, 45
34	450	<30->61	M 238 F 212	N/M	N/M	
35	5	52-64	M 5	85	51	
38	70	40-90	M F	1684	42	

Abbreviation: M=Male, F=Female, N/M=Not mentioned, CP= Community People

Table 3: List of studies analyzed.

Ref	Keywords	Parts of Used	Uses	Identified by
1	Folk medicine, MP	WP, F & F, leaf, stem, bark, root, sap, seed, rhizome & trunk	DD, constipation, indigestion, arthritis, DM, HD, skin disorders, helminthiasis, chicken pox, RTI, weakness, hepatitis, edema, inflammation, toothache, cuts and wounds, fever, STD, UTI, piles, HBP, menstrual problems, anorexia, snake & insect bite, pain, malaria.	BNH
2	Unani, TM, MP	N/M	RTI, GI disorders, DM, RA, pain, skin, liver & spleen disorder, fever, worm, gum, cuts and wounds, toothache, coughs, mucus, chicken pox, snake bite, burning sensations, piles, insomnia, conjunctivitis, dandruff, low sperm density, infertility, epilepsy.	BNH
3	Folk medicine, MP	WP, F & F, leaf, stem, bark, seed,	GID, RTI, DM, UTI, chest pain, COPD, skin & sexual disorders, leucorrhea, menstrual problem,	BNH

		sap, root, rhizome & trunk	gonorrhea and loss of libido, liver & nerve disorder, fever, pain, inflammation, infectious, cancer, blood purifier, anemia, snake & insect bite, aging and appetizer.	
4	HP, IH, Ethno-MP, Tripura community	N/M	Cough, ulcer, blood dysentery, fever, intestinal worm, spleenomegaly, labor problem, leucorrhoea, boils, anemia, rheumatism, diarrhea, flatulence, TB, abdominal pain, abortion, contraceptive, UTI, HBP, burning, impotence, piles and weakness.	CTGUH
9	MP, Kabiraj, Folk medicine	WP, F & F, leaf, stem, bark, root, seed & gum	RTI, fever, GI disorders, helminthiasis, pain, tooth infections, cuts and wounds, diabetes, tumor and swellings, eye diseases like conjunctivitis, ear infections, skin diseases, debility, abscesses, insect bites, urinary tract disorders, and hypertension.	BNH
11	TM, Leafy vegetables	Leaf, stem, top portion of stem, root & tuber	Dysentery and stomach problems, GID, increase appetite, fever, mucus, coughs, blood purifier, bloating, constipation, colic, jaundice, pain, fever, weakness, throat pain, fever.	BNH
13	MP, Ethno-botany, Drug development	WP, F & F, leaf, seed, wood, bark, root, gum, stem & rhizome	Fever, DD, diuretic, DM, BP, HD, RA, worm, abortion, abscess, anemia, bone fracture, asthma, burning sensation, constipation, chicken pox, eczema, headache, indigestion, jaundice, menstrual disease, piles, paralysis, skin disease, bleeding, sex problems, UTI.	RUH
14	Ethno botanical survey, TMP, Evidence-based medicine	WP, plants, leaves, seeds, root, fruit, root & bark	DM	Technical university of Munich
16	TM, MP	WP, F&F, root, leaf, seed, bark	Skin diseases, intestinal tract disorders, constipation, indigestion, stomachache, HD, DM, DD, Cancer, tumor, insecticide, arthritis, wounds jaundice, animal and snake bites, tiger bites, leprosy, STD like gonorrhea, impotency, abortion & helminthiasis.	BNH
17	FM, Diabetes, MP	WP, leaf, stem, bark, flower, seed & tuber	DM	BNH
18	Preventive medicine, MP	WP, leaf, stem, bark, flower, seed & tuber	Cough, colds, mucus, syndromes, sun's heat, heat stroke, skin disorders, hemorrhoids, chicken pox, flatulence, bloating, formation of excessive gas in the stomach, headache, dizziness, physical weaknesses and vomiting tendency.	BNH
19	Folk medicine, Kabiraj, MP	N/M	Skin diseases, jaundice, RTI, toothache, GID, DM, HTN, to stop bleeding, excessive bleeding during menstruation, fever, helminthiasis, burning sensations, boils, eye infections, decrease in libido, hoarseness of voice, bone fractures, goiter & leucorrhea.	BNH
20	Folk medicine, ailments, MP	WP, F & F, leaf, single plant, rhizome, root, stem, bark, seed, tuber, wood, shoot, spikes	GID, DD, DM, HTN, HD, RA, constipation, acidity, RTI like asthma, cough, cold, kidney and UTI, jaundice, snake & insect bite, cut, burn, eye problem, dementia & mental problem, worm, infertility, gout, malaria, abdominal pain, allergy, tumor, cancer, dyspepsia, menstrual problems, leprosy, skin & sexual disorder, bleeding, vomiting.	BNH
22	Folk medicine, MP	Leaves, roots, barks & fruits	GID, constipation, DD, DM, HTN, HD, RF & RA, loss of appetite, acidity, eczema, leprosy, pimple, itches, UTI, RTI, asthma, coughs, jaundice, pain, fever, bone fracture, eye & ear problem, toothache, loss of hair, hemorrhoids, gonorrhea, infections, physical & sexual weakness, worm, vomiting, snake	BNH

			bite, GBS, burns, chicken pox, malaria, diphtheria, anemia, menstrual problems, tumors, malnutrition of fetus, and leukemia.	
23	Anti-diabetic MP, Indigenous Uses, Santals	WP, F & F, leaf, stem, roots, bark & seed	DM	RUH
24	Folk medicine, Kabiraj	N/M	RT disorders, leucorrhea, depression, conjunctivitis, GI disorders, skin disorders, pain, fever, burns, infertility and cuts and wounds & malfunctioning of kidneys.	BNH
25	Folk medicine, MP	WP, F & F, stem, root, shoot, seed, bark & rhizome	GI disorders, pain, skin disorders, cancers or tumors, diabetes mellitus (DM).	BNH
26	Angiosperm diversity, MP, Graveyards	WP, leaf, stem, latex, root, fruit, bud, seed, shoot, bark & wood	Abscess, asthma, abortion, cough, cold, chicken pox, constipation, DD, DM, HD, eczema, fever, fracture of bone, headache, itches, jaundice, menstrual disease, paralysis, piles, skin diseases, snake-bite, sex problems, toothache, vomiting, worm & wound.	BNH & RUH
27	Conservation management, MP	WP, F & F, stem, bark, seed, rhizome & root	Abscess, asthma, abortion, cough, cold, chicken pox, constipation, DD, DM, HD, UTI, CKD, ulcer, eczema, ear, head & toothache, fever, bone fracture, gout, hiccup, itches, jaundice, joint pain, menstrual disease, paralysis, piles, skin & sex diseases & vomiting.	RUH
28	Folk medicine, MP	WP, F & F, leaf, root, seed, stems, bark, & tubers	STD, RTI, GID, skin disorders, UTI, RA, snake bites, yellow fever, cancer, alopecia, cut, wound, paralysis, burn, malaria, cholera, GBS, hepatitis, DM, HD, pain, weakness, piles, obesity, eye disorders.	BNH
29	Medico-botany, Drug discovery	WP, stem, bark, seed, latex, fruit, rhizome, bulb, tuber, root & inflorescence	Asthma, astringent, burning sensation, constipation, DD, HD, DM, eczema, fever, bone fracture, gonorrhea, headache, itches, jaundice, kidney disease, leprosy, piles, snake bite, ulcer, worm & wound.	RUH
33	Traditional uses, MP	WP, F & F, Leaf, plant, stem, bark, root, rhizome & seed	Abscess, asthma, abortion, cough, cold, chicken pox, constipation, DD, HD, DM, eczema, fever, bone fracture, headache, itches, jaundice, menstrual disease, paralysis, piles, skin & sex problem, snake-bite, toothache, vomiting, worm & wound.	RUH
35	CAM, Asian medicine, ethno-medicine	WP, F & F, leaf, stem, roots, bark, seed, gum, tuber & base of the plant	RIT, GID, RA, UTI, HD, DM, GBS, fever, pain, puerperal fever, anemia, physical & sexual weakness, infections, skin, gonorrhea, menstrual & uterus disorder, leucorrhea, kidney stone, jaundice, filariasis, blood purifier, tumor, paralysis, burns, dizziness, malnutrition, allergy, bleeding from cuts, wounds & mouth, insanity & goiter.	BNH
36	Ethno-medicine, Kabiraj	N/M	Fever, pain, loss of hearing and eyesight, GID, DM, cuts & wounds, GBS, oral lesions, skin, liver & spleen disorder, RTI, burning sensations in hands or feet or during urination, mumps, leucorrhea, pain, bone fracture, memory loss and helminthiasis.	BNH
37	MP, Tribal medicine, Pahan	N/M	DM, GID, cut, wound, injuries, tonsillitis, dehydration, snake bite, pain, hair loss, dandruff, sexual disorders, TB, burning sensations, coughs, pus in ears, tongue lesions in children and bone fracture.	BNH

Abbreviation: BNH=Bangladesh National Herbarium, RUH=Rajshahi University Herbarium, CTGUH=Chittagong University Herbarium, COPD=Chronic Obstructed Pulmonary Diseases, DD=Diarrhea & Dysentery, DM=Diabetes Mellitus, GBS=Gall Bladder Stone, GID=Gastrointestinal Disorder, HBP=High Blood Pressure, HD=Heart Disease, HTN=Hypertension, RA=Rheumatoid Arthritis, RF=Rheumatic Fever, RTI=Respiratory Tract Infection, STD=Sexual Transmitted Diseases, TB=Tuberculosis, UTI=Urinary Tract Infection.

DISCUSSION

Table 1 summarizes the studies on the basis of use of medicinal plants and the ethno-medicinal survey in Bangladesh from 2008 to 2016. It was reported first author with year of publication, study subject, stakeholder, level of education of study subject, types of study, sampling procedure and tools of data collection and procedure. Study found that most of the study population was Kabiraj, second highest was elderly people. Study found the stakeholder of the reviewed study was mostly community people, followed by ethnic community like Tripura, Chakma and tribal community in Bangladesh. Most of the study population (Kabiraj) was not formal educated. It was found that highest ethno-medicinal survey was done, followed by five studies was cross-sectional; two was prevalence study. Convenient and randomly procedure was followed and semi-structured questionnaire was used as tools for data collection. Field walk method and face to face interview technique was applied to collect information. FGD, HBM and KII procedure was also applied. It has been reported that the Kabiraj select the medicinal plants based on their own experiments, past experience, or learned from their mentor (termed by them as Guru), who may be a senior member of concern community or the previous generation. In spite of this fact, it is still important to know whether any plant used by a Kabiraj for treatment of a given ailment has any reported relevant pharmacological activity or phytochemical analysis in scientifically conducted studies that can validate the use of medicinal plants.

It was found from table 2 that some of the study adhered to the research guidelines and protocol. Most of the research was to qualitatively identify traditional medicinal plans known and accessible by the community people of Bangladesh. In this purpose, some study shown very poor sample size which was not representative, but some were satisfied. Average sample size was 219; but the criticism of the study that it should be a reasonable sample for ethno-botanical survey by a large experienced community which information will be helpful the pharmacologist, botanist, pharmacognist for collection and identification of the plant for future research and the disease emerge threat world. It was reported the lowest and highest sex ratio was 0.85 and 36.2 respectively. It should be increased more female participants for documented information about use of medicinal plants and different types of diseases as well as their knowledge, attitude, perception and practices.

Study reviewed from table 2 that average number of used medicinal plants was 45. As part of ethno-botanical survey this number is not representative. It is discussed that Bangladesh is endowed with vast resources of medicinal plants. About 5000 plants species have been estimated to be present in Bangladesh. Almost 550 plants species have been branded as medicinal plants having therapeutic properties of which 300 are reported species are now commonly used in traditional/herbal medicines

for the health care of the millions of people of this country (Faruque, O. 2011).[4] The results of this study (table 3) demonstrate that the whole plant, single plant, leaf, stem, bark, root, flower, fruits, sap, seed, rhizome, trunk, bulb, tuber, shoot, spikes, wood were used for treatment for ailment. Study showed that sometimes the top portion of stem, inflorescences and the base of the plants were used for treatment. The high percentage of use of fruits in the formulations appeared to be a distinctive property of the Kabiraj, Hakim and traditional herbal practitioners. It was revealed that the common diseases like abscess, anemia, asthma, abortion, bone fracture, cough, cold, constipation, diarrhea, dysentery with blood, fever, skin disease like eczema, menstrual disease, leucorrhea, paralysis, piles, fistula, sexual problem, vomiting, rheumatoid arthritis, heart disease, diabetes mellitus, respiratory tract infection, urinary tract infection, gall bladder stone, kidney stone, uterus disorder, jaundice, gastro intestinal disorder are treated by use of medicinal plants. Diseases like diabetes, cardiovascular disorders or epilepsy are difficult to treat with allopathic medicine. The elderly people of local ethnic community claimed that they have treated some unique diseases like diphtheria, tumors, cancer, leukemia, leprosy, psoriasis, goiter, epilepsy by used of medicinal plants. It was posed by experienced folk medicine practitioners that they have used medicinal plant for prevent age.

CONCLUSION

Studies of the systematic review and meta-analysis on the indigenous or folk medicinal use of medicinal plants are important from the scientific point of view in that it enables rapid scientific studies towards finding and development of newer drugs from centuries old practical use derived knowledge of medicinal plants. The other beneficial thing about this form of practice is the availability and affordability of the plants and the formulations, which provides considerable economic relief to the patients like developing Bangladesh. It may be pointed out in this respect, that not all medicinal plants reported by the Kabiraj or local community have been studied yet; in fact, scientific studies on most plants remain preliminary at the best and there is an enormous potential for conducting further scientific experiments regarding their pharmacological activities and their phytochemical constituents. Doubtlessly, more studies have the probability of validating the uses of more medicinal plants will be reported in the future survey.

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