

STUDIES ON UNANI HERBAL MEDICINAL PLANTS

Sonali Sajwan¹, Kunal Sajwan¹, Mahesh Chandra², Anas Iqbal Alvi², S. M. Asim² &
Najmus Sehar³

¹Drug Standardization Research Institute, PLIM Campus, Kamla Nehru Nagar,
Ghaziabad, U P.

²Drug Standardization Research Unit, PLIM Campus, Kamla Nehru Nagar,
Ghaziabad, U P.

³Regional Rerearch Institute of Unani Medicine, Guzri, Patna, Bihar

ABSTRACT

The growing interest in Natural Healthcare has led to multi-dimensional research in various traditional systems of medicines in recent years which mainly use plant for therapeutic purposes. These systems mainly depend on plant origin drugs and hold promise for safe and effective healthcare through plant based medicines. A large body of research work over the last few decades indicates certain trends that may prove quite meaningful in the near future. The study attempts to showcase the gains made in fields of plant research in recent past.

INTRODUCTION

Plants have always been the greatest friends and allies of humanity ever since the beginning of life. They fulfil some of the basic needs for survival including food and medicine. All over the world plants are still used for medicinal purposes in one way or the other. However, India is the only nation where Ayurveda and Unani systems of medicine enjoy full support and recognition of the government and its people. Although these systems also use mineral and animal origin drugs but most of the drugs in these systems are derived from plants. The plant based drugs are not only effective but also harmless and inexpensive. More and more people across the globe are turning towards herbal medicines for their day to day health requirements. Since herbs have been in vogue throughout the history and the common folks are quite familiar with some of the herbs used regularly as kitchen items that possess great potential of preventing several frequently occurring diseases such as, High Blood Pressure, Kidney and Bladder Stones, Liver and Spleen diseases, Gastrointestinal problems etc. For instance, garlic and turmeric are the common ingredients used in foods regularly but both are also effective against microbial affections. Similarly, ginger is found to be an excellent appetizer that reduces inflammation and serves as digestive aid as well as an anti-cancer drug for Colorectal and Ovarian Cancers.

Unani system of medicine is totally based on the drugs from plants, animal and mineral origin. However single drugs or their combination in raw form is preferred over compound formulations. A large number of classical formulations used in Unani System of Medicine to cure various ailments are derived from classics of the system which are gradually analyzed and converted into modern formularies and pharmacopoeias.

The Unani Pharmacopoeia of India, Part I, I to IV consists of 198 monographs on single drugs of plant origin used in Unani System of Medicine (Anonymous, 1999). National Formulary of Unani Medicine, Part-I (441 formulations), Part II (202 formulations), Part III (103 Formulations) and Part IV (166 formulations) (Anonymous 1981, 1999a, 2001, 2006) are basis for the selection of plant sps. for monographs in Unani Pharmacopoeia of India. Plant drugs used as ingredients in the formulations described in these formularies are subjected for pharmacopoeial standardization (Table I and II). The first revised Unani Pharmacopoeia of India, Part I, I published in 2007, comprised of 45 monographs on plant drugs (Anonymous, 1999 and 2007). The second ume of Unani Pharmacopoeia of India, Part I, II, published in 2007, comprised of 50 monographs (Anonymous, 2007a). UPI part I, III, published in 2007, comprised of 53 monographs on plant drugs (Anonymous 2007b). Unani Pharmacopoeia of India, Part- I, - IV, published in 2007, comprised of 50 monographs on plant drugs (Anonymous, 2007c).

S.No.	Origin	No. drugs in part I	No. drugs in part II	No. drugs in part III	No. drugs in part IV
1.	Single drugs of plant origin	342	251	181	339
2.	Single drugs of animal origin	38	24	18	38
3.	Single drugs of mineral origin	65	40	34	65
4.	Total drugs	445	315	233	442

Table-1: Single drugs of Plant, Animal and Mineral origin used in preparation of compound formulations of National Formulary of Unani medicine, Part- I, II, III, IV (Anonymous, 1981, 1999a, 2001, 2006).

Part used	Pharmacopoeia part- I	Pharmacopoeia part- II	Pharmacopoeia part- III	Pharmacopoeia part- IV	Pharmacopoeia part- V	Pharmacopoeia part- VI
Root	5	6	3	9	10	6
Root bark	1	-	-	2	2	-
Whole plant	1	-	3	4	4	2
Stem	1	1	-	2	-	-
Stem bark	2	2	5	6	4	2
Leaf	5	6	5	3	6	3
Flower	2	4	5	2	2	1
Seed	7	20	9	11	10	10
Fruit	12	2	9	6	4	7
Miscellaneous	11	7	14	5	10	16
Total	45	48	44	50	52	47

Table- 2: Pharmacopoeial monographs on single drugs (Plant origin) used in Unani formulations

There are certain plants having good medicinal properties and are used as **whole plants** itself in various formulations of Ayurvedic and Unani system of medicine- *Anagallis arvensis* (Afaq, *et al.*, 1988), *Asteratiquis* (Hussain, *et al.*, 1993), *Nerium odorum* (Dastgir, *et al.*, 1998), *Nerium oleander* (Caviglia, *et al.*, 1998), *Cecropia pachystachya* (Caviglila, *et al.*, 1998), *Lagasmollis* (Susheela, *et al.*, 1998), *Sour orange and leaf* (Carat, *et al.*, 1999), *Lady Mentle* (Fraise, *et al.*, 1999), *Salvadora persica* (Kamil, *et al.*, 1999), *Phyllenthus amarus* (Annamalai, *et al.*, 2000), *Aegle marmelos* (Nambiar, 2000), *Eclipta alba* (Seetharam, *et al.*, 2000), *Isqeel* (Hashmi, *et al.*, 2000), *Viburnum foitidum* (Lakshmanan, *et al.*, 2000),

Urginea indica (Hashmi, et al., 2000), *Sarkaraivembu* (Muthuraman, et al., 2000), *Alhagi maurorum* (Kamil, et al., 2001), *Bhoomichampaka* (Nambiar, et al., 2001), *Alternanthera pungens* (Gupta, et al., 2003), *Clematis serecta* (Kumar, et al., 2003), *Oroxylum indicum* (Nambiar, et al., 2003), *Hemidesmus indicus* (Kotnis, et al., 2003), *Alternanthera pungens* (Gupta, et al., 2003), *Senna uniflora* (Vijai, et al., 2004), *Convulus microphyllus* (Zafar, et al., 2007), *Mushkdana* (Negi, et al., 2003), *Rumex nepalensis* (Venkatesh, et al., 2004), *Hypericum perforatum* (Singh, et al., 1998), *Petiveria elliciacea* (Duarte, 2005), *Solidago Canadensis* (Saraswathy, et al., 2006), *Polygonastrum verticillatum* (Pandey, et al., 2006), *Hybanthus ennearmus* (Narayanaswamy, et al., 2006), *Spheranthus indicus* (Prabhu, et al., 2006), *Clerodendrum viscosum* (Lobo, et al., 2006), *Cocculus hirsutus* (Sangmeshwaram, et al., 2007), *Barshasha* (Qasim, et al., 2007), *Aqurqarha* (*Anacyclus pyrenthus* DC) (Jain, et al., 2007), *Achyranthus aspera* (Padmini, et al., 2007), *Wedelia biflora* (Suresh, et al., 2008), *Wedelia biflora* (Kumar, et al., 2008), *Chiraita* (Sheela et al., 2008), *Luffa cylindrica* (Ramaswamy et al., 2009), *Acrotrema arnottianum* (Kumar, et al., 2009), *Ruta greveolens* (Meena et al., 2009), *Trianthema portulacastrum* (Khan, 2009), *Izkhar* (Rashid, et al., 2007), *Commelina bengelensis* (Mageshwari, 2010), *Lodh pathani* (Siddiqui, et al., 2010), *Jawansa* (Negi, et al., 2009), *Symplocos racemosa* (Siddiqui, et al., 2010), *Todri* (Afaq, et al., 2011), *Khas Vetineria zizaniodes* (Agrawal et al., 2011), *Parsiaoshan* (Rashid, et al., 2012), *Kanghi Booti* (Abdullah, et al., 2012), *Ood-e-balsan* (Mageshwari, et al., 2013), *Capsicum frutescens* (Rai, et al., 2014), *Fagonia cretica* (Modi, et al., 2014).

Pharmacognosy /Histochemical study/Leaf Extract/of leaf drugs- *Porchulaca oleracea* (Hashmi et al., 1984), *Cassia* (Rai et al., 1993), *Cassia alata* and *Cassia podocarpa* (Elujoba et al., 1993), Marginal Trichomes- *Cassia* (Manohar et al., 1993), *Jasminium grendifolium* (Rashid et al., 1995), *Biranjasi* (Rashid, et al., 1996), *Azimatetra cantha* (Sasikala, et al., 1997), *Cyclamen persicum* (Bisio, et al., 1998), *Hypericum perforatum* (Rashmi, 2010, Singh, 1998), *Brahmi* (Mehta et al., 1999), *Cassia torra* (Maity et al., 1999), *Hazel leaf* (Freisse et al., 1999), *Ficus hispida* (Mandal, et al., 2001), *Clamatis erecta* (Kumar, et al., 2003), *Cyphostemma setosum* (Nartunai G, et al., 2003), *Oroxylum indicum* (Nambiar, et al., 2003), *Aegle marmelos* (Rashid, et al., 2003), *Cassia angustifolia* (Srivastava, et al., 2006), *Curcuma aenerigenosa* (Srivastava, et al., 2006), *Salvadora persica* (Shantha, et al., 2004), *Atalantia monophylla* (Manimaran, et al., 2004), *Leucas aspera* (Rai, et al., 2005), *Petiveria alliacea* (Duarte, et al., 2005), *Vitex trifolia* (Sanitha, et al., 2006), *Pongamia pinnata* (Kanwal, et al., 2006), *Garcinia gummigutta* (De Britto, et al., 2006), *Solanum nigrum* (Vidhu, et al., 2007), *Stevia rebudiana* (Hashmi, et al., 2007), *Tylophora indica* (Bagri, et al., 2007),

Convulvous microphyllus (Zafar, et.al, 2007), *Abutilon indicum* (Dash, et. al., 2007), *Amla* (Negi, et.al., 2007), *Stevia* (Hashmi et. al., 2007), *Neolamarkia cadamba* (Shantha, et.al., 2008), *Tapinanthus bangwensis* (Kandri, et. al., 2008), *Solanum nigrum* (Aeri vidhu, et.al., 2007), *Grevia asiatica* (Gupta, et.al., 2008), *Elephantopus* (Tessy, et. al., 2008), *Phyllenthus acidus* (Sheela, et.al., 2008), *Sibr* (Sajwan, et. al., 2008), *Syzygium cumini* (Negi, et. al., 2008), *Amaranthus spinosus* (Rashmi, et. al; 2008), *Lactuca virosa* (Rashmi, et. al., 2009), *Ruta graveolens* (Meena, et. al., 2009), *Parthenium hysterophorus* (Rashmi, et. al., 2010), *Hypericum perforatum* (Rashmi, et. al., 2010), *Couropita guianensis* (Mageshwari, et. al., 2010).

Pharmacognosy of flower /flowering bud- *Gulnar farsi* (Lal, et. al., 1991), *Plaspapra* (Hashmi, et. al., 1991), *Matricaria cammomilla* (Rashid, 1994), *Hibiscus rosa sinensis* (Rashid, 1996) (Singh, 1998), *Alcea rosea* (Mehrotra, et. al., 1991), *Clitoria ternatea* (Devi, et. al., 2007), *Myristica fragrans* (Hashmi, et. al., 1997), *Calendula officinalis* (Madhurima, et. al., 2007), *Saussurea sacra* (Parveen, et. al., 2007), *Gul- e- Neem* (Ahmad, et. al., 2007), *Gul- e- ghafis* (Afaq, et. al., 2011), etc.

The work on **stem/stem bark /wood anatomy** with reference to pharmacognosy was taken up by a number of researchers. Stem/ stem bark /wood of different medicinal plants have been pharmacognostically evaluated by different authors e. g., *Piper longum* (Atal, et. al., 1962), *Psidium guajava* (Chaudhari, et. al., 1968), *Streblus asper* (Chaudhari, 1968), *Portulaca quadrifida* and *P. olaracea* (Lal, et. al., 1982), *Mimusops elengi* (Mitra et. al., 1993), *Cissus populnea* (Ibrahim, et. al., 1993) *Cordia myxa* and *Embelica officinalis* (Khan, et. al., 1993), *Zanthoxylem armatum* and *Azadirachta indica* (Dastagir, et. al. 1997), *Pterocarpus marsupium* (Miranda, et. al., 2000), *Vietnames ecinnamonbark* (Kondo, 2000), *Pongamia pinnata* (Kurkure, et. al., 2001), *Agaru* (Dash, et. al., 2001), *Carissaedulis* (Ibrahim, et. al., 2002), *Ochna lanceolata* (Muthkumarasamy, et. al; 2003), *Capperis* (Negi, et. al., 2007), *Morris alba* (Zafar, et. al; 2004, Ansari, et. al., 2006), *Garcinia gummigutta* (De Britto, et. al; 2006), *Balenites aegyptica* (Ansari, et. al., 2007), *Bombex ceiba* (Ansari, et. al., 2007), *Jamun* (Negi, et. al., 2007), *Izkhar* (Rashid, et. al; 2007), *Cesalpenia* (Ramaswamy et. al., 2010), *Gumma* (Ansari, et. al; 2012).

Pharmacognosy of root drugs/ rhizome drugs/ root bark - *Anacyclus pyrenthrum* (Hashmi, et. al., 1989), *Bekh-e- Karafs* (Amin, et. al., 1989), *Polypodium vulgare* (Mannan, et. al. , 1990), *Biranjasa* (Rashid, et. al., 1996), *Musli Sufed* (Rashid, 1999), *Pongamia pinnata* (Karkure, et. al., 2000), *Kasni root* (Hashmi, et. al., 2001), *Berberis aristata* (Srivastava, 2001 & 2005),

Curcuma amada (Chitra, et al., 2002), *Grewia tiliaefolia* (Badmi, et al., 2002), *Butea monosperma* (Laghate, et al., 2004), *Pygmaeopremna herbacea* (Rastogi, et al., 2005), Shalparni (Sharma, et al., 2005), Imam, et al., 2005), Khurasani ajwain (Hashmi, et al., 2005), *Berberis chitrica* (Srivastava, et al., 2006), *Curcuma aenerigenosa* (Srivastava, et al., 2006), *Capparis spinosa* (Negi, et al., 2007), *Chenopodium album* root (Yadav, et al., 2007), Aqurqarha (*Anacyclus pyrenthus* DC) (Jain, et al., 2007), *Sida cordifolia* (Balakrishnan, et al., 2007), *Artemisia* (Suresh, et al., 2007), Sheetraj (Sharma, et al., 2007), *Withenia somnifera* (Sharma, et al., 2009), *Althea officinalis* and *Althea rosea* (Khatmi) (Khatoon, et al., 2008), *Operculina turpethum* (Sharif, et al., 2008), *Achoruscalamus* (Sharma, et al., 2008), Satawar (Sharma, et al., 2008), Narkachoor (Negi, et al., 2008), Darhald (Siddiqui, et al., 2009), *Operculina turpethum* (Shareef, et al., 2009), *Plumbago capensis* (Arianthan, et al., 2009), *Alpinia officinarum* (Ramaswamy, et al., 2010).

Pharmacognosy on style and stigma- Zafran (Sajwan, et al., 2009).

Pharmacognosy of Tubers/ Bulbs/galls- *Asperagus adscens* (Airi, et al., 2005), *Cyperus routundus* (Sharma, et al., 2009), *Quercus infectoria* (Hashmi, et al., 2006).

Pharmacognosy of fruits used as drugs: *Tribulus terrestris* (Hashmi, et al., 1996), *Myristica fregrens* (Hashmi, et al., 1997), *Aegle marmalos* (Nambiyar, et al., 2000, Kalai selvan, et al., 2005), *Pimpinella anisum* (Siddiqui, et al., 2002), *Khurasani Ajwai* (Hashmi, et al., 2005), Mayaphal (Hashmi, et al., 2006), *Tala* fruit (Shanta, et al., 2007), Sapistan (Meena, et al., 2008), *Mallotus philippensis* (Thirumurugan, et al., 2008), *Ammi visnaga* (Kamil, et al., 2008, Saritha, et al., 2008) *Tribulus terrestris* (Hashmi, et al. 1998, Pande, et al., 2008), Qimbeel (Sajwan, et al., 2009), *Cardamom* (Jamal, et al., 2009), Habb- ul- aas (Meena, et al., 2013), *Vitex agnus- castus* (Rashmi, et al., 2014).

Pharmacognosy of seeds: *Brassica nigra* (Dey, et al., 1980), White and Black Sesame (Hashmi, et al., 1993), *Psoralea corylifolia* (Gupta, et al., 1997), *Adenantha pavonina* (Shanta, et al., 1997), BadamTalkh (Hashmi et al., 1998), *Cardospermum* (Latif, et al., 2000), *Talmakhana* (Ahmad, et al., 2000), Hummaz (Hashmi, et al., 2001), *Butea monosperma* (Shrivastava, et al., 2002), Karanj (Hashmi, et al., 2002), *Ocimum basilicum* and *Plantago ovata* (Srinivas, et al., 2003), *Cassia angustifolia* (Srivastava, et al., 2003), Babchi (Ahmad, et al., 2005), (Hashmi, et al., 2006), Khatmi (Khatoon, et al., 2007), *Kasni* (Rashid, et al., 2007), Linseed (Beigh, et al., 2007), Baqla (Hashmi, et al., 2007), Tukhm- e- Ispast (Hashmi, et al., 2007, Qasim, et al., 2007), Gandhana (Hashmi, et al., 2008), Chiraita

(Sheela, *et al.*, 2008), Habb- ul- Rashaad (Sajwan, *et al.*, 2009), Khirni (Rashid, *et al.*, 2009), *Karanj* (Hashmi, *et al.*, 2002; Padamkumar *et al.*; 2013).

Pharmacognosy, Standardisation, Physico-chemical Standardisation of compound formulations carried out on following Unani formulations: Itrifal- e- Zamani (Siddiqui, *et al.*, 1991), Rooh Kevra (Rao, *et al.*, 2000), Chyawanprash (Ali, *et al.*, 2001), Sharifa oil (Rafeeq, *et al.*, 2002), Jawarish Zarooni sada (Afzal, *et al.*, 2003), Arqiyat (Siddhiqui, *et al.*, 2004), Zuroor- e- Qula (Paridhavi, *et al.*, 2004), Majoon- e- Jograj Gugal (Pathak, 2006), Tila-e-Mubahi (Neeta, *et al.*, 2006), Sharbat- e- Ejaz (Bagul, *et al.*, 2006), Itrifal Mulaiyin and Sharbat- e- Dinar (Veeresh, *et al.*, 2006), Sharbat- e- Nilophar and Majoon Zabeeb (Srinivasa, 2006), Majoon- e- Jograj Gugal (Pathak, *et al.*, 2006), Arqyat (Siddiqui, *et al.*, 2008), Kushta (Vohra, *et al.*, 2006), Habb- e- Shifa (Rashid, *et al.*, 2007), Rhubarb formulations (Prathap, *et al.*, 2007), Raugan- e- Kameela (Khan, *et al.*, 2007), Standardisation of Raughaniyat (Khan, *et al.*, 2007), Majoon Ispand Sokhtani (Goel, *et al.*, 2007), Itrifal Muqil (Arfin, *et al.*, 2007), Jawarish- e- Pudina (Negi, *et al.*, 2007), Habb- e- Shifa (Tujuddin, *et al.*, 2007), Zuroor- e- Qula (Paridhavi, *et al.*, 2007), Lasunadi vati (Rao, 2007), Sunoon- e- Tambaku (Zuberi, *et al.*, 2008), Itrifal- e- Kishnizi (Negi, *et al.*, 2009), Jawarish- e- Hazim (Meena, *et al.*, 2009), Qurs- e- Istisqa (Imam, *et al.*, 2009), Majoon- e- Rewand (Ramaswamy, *et al.*, 2009), Majoon- e- Yahya bin Khalid (Mageswari, *et al.*, 2009), Habb- e- Narmushk (Negi, *et al.*, 2010), Jawarish- e- Kamooni (Sajwan, *et al.*, 2011), Majoon Injeer (Negi, *et al.*, 2011), Sufoof- e- Chutki (Khan, *et al.*, 2011), Majoon- e- Ispand Sokhtani (Sajwan, *et al.*, 2011), Kushta Sammul Far (Ansari, *et al.*, 2012), Marham Quba (Afaq, *et al.*, 2012), Marham Kafoor (Afaq, *et al.*, 2012), Sunoon- e- Zard (Rashid, *et al.*, 2012), Itrifal Ustukhudus (Meena, *et al.*, 2012), Habb- e- Irqun Nisa (Sajwan, *et al.*, 2012), Jawarish- e- Javed (Ramaswamy, *et al.*, 2013), Triphala Churna (Padamkumar, *et al.*, 2013), Sufoof- e- Mohazzil (Ansari, *et al.*, 2013), Namak Ajeeb (Negi, *et al.*, 2013), Jawarish- e- Qaiser (Meena, *et al.*, 2014), Habb- e- Paan (Rasheed, *et al.*, 2014), Safoof Kharish (Chaudhary, *et al.*, 2014).

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