

## Common Medicinal Plants helpful in managing Disease Burden of Uttar Pradesh- A Critical Review

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**ABSTRACT:** As per Uttar Pradesh Health Dossier 2021 approximately 77.73 % population of Uttar Pradesh is from rural areas, and one of the major health indicators. The percentage share of Total Disease Burden in terms of the percentage of disability-adjusted life years accountable for communicable maternal, neonatal, and nutritional diseases is 40.5% which is higher than the national value, i.e., 33%; the State Health Department expenditure as a share of total percentage expenditure is higher (5.3%) than national value (5%). The most prevalent diseases in U.P. according to recent studies are COPD, Diarrhoeal diseases, Ischaemic heart disease, Lower respiratory infections and Tuberculosis. The region is having wide range of natural resources and flora. After thorough study and data analysis, prevalent diseases in state and available native medicinal plants were identified based on the available reports and scientific literature. Some of the plants were identified to possess pharmacological actions that can be beneficial in combating the disease burden of state as promising alternative to costly medicines and pharmaceuticals. Agricultural techniques may also be utilized and communicated to prime cultivators in identified areas to promote cultivation of such medicinal plants. This study may help promote the utilization of locally available plants for health benefits and healthier society and, at the same time, may contribute in decreasing the state's health expenditure.

**Keywords:** Medicinal Plants, Ayurveda, Medicinal Use, Diseases burden, Uttar Pradesh.

### INTRODUCTION

Uttar Pradesh, situated in the north-central region of India, is the fifth largest state in terms of land area and the most populous state in the country. The disease burden of Uttar Pradesh, being the most populated state in India, shows the proportion of total disease burden to be from Communicable, maternal, neonatal, and nutritional diseases (CMNNDs) to be 40.5%, non-communicable diseases (NCDs) to be 47.9%, and from Injuries to be 11.6% (India: Health of the Nation's States, 2017; 3). The most prevalent diseases are COPD, Diarrhoeal diseases, Ischaemic heart disease, Lower respiratory infections and Tuberculosis. Additionally, Uttar Pradesh boasts abundant natural resources and a diverse range of flora. However, the prices of medicines and pharmaceuticals are exorbitant and unaffordable for a significant portion of the developing country's population. This study examines the diseases prevalent in Uttar Pradesh and investigates the potential benefits of local medicinal plants in combating these ailments. The study explores the reported pharmacological actions of these plants and highlights the role of native vegetation in managing

prevalent diseases in the region. The findings suggest that utilizing agricultural techniques and promoting cultivation of these plants among prime cultivators in identified areas can bring about health benefits and economic advantages. Any change in the health statistics of Uttar Pradesh being the most populated state will definitely bring change in health statistics of India.

### MATERIAL & METHODS

#### A. Methodology

Exhaustive literary research was carried out to get through the details, geographical and forest information, and the commonly found medicinal plants in Uttar Pradesh with the help of scientific engines like Google Scholar (<http://scholar.google.com>) and the databases like Springer (<http://www.springer.com>), Science Direct (<http://www.sciencedirect.com>), Sci Finder

(<http://www.libnet.ulg.ac.be/en/eresources/scifinder-scholar>),

(<http://www.ncbi.nlm.nih.gov/pubmed>),

(<http://pubs.rsc.org/en/journals>),

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(<http://pubs.acs.org/>) and Scopus (<http://www.scopus.com>). The review summarizes the prevalent diseases reported in Uttar Pradesh and investigates the use of local plants in their treatment based on reported pharmacological actions as per the ancient ayurvedic texts and reference literature.

## OBSERVATION & RESULTS

### Disease Burden of Uttar Pradesh

#### Prevalence and Treatment of Childhood Diseases (children under age 5 years) in Uttar Pradesh (NFHS-5; 4)

As per National Family Health Survey-5, Fact sheet Uttar Pradesh, Diarrhoea was present in 5.2% urban and 5.7% rural children preceding the survey and out of these 47.5% urban and 51.5% rural children received oral rehydration salts (ORS), 29.7% urban and 28.2% rural children received zinc and 73.3% urban and 69.1% rural children were taken to a health facility or health provider. 2.7% urban and 3.8% rural children were having symptoms of acute respiratory infection (ARI) in the 2 weeks preceding the survey and of these 67.2% urban and 62.1% rural children had to be taken to a health facility or health provider.

#### Nutritional Status of Adults (age 15-49 years) in Uttar Pradesh (NFHS-5; 5)

13.6% urban and 20.8% rural women (Excluding pregnant women and women with a birth in the preceding 2 months) and 13.4% urban and 19.5% rural men were Body Mass Index (BMI) is below normal BMI <18.5 kg/m<sup>2</sup>. 30.6% urban and 18.3% rural women and 24.9% urban and 16.25% rural men were overweight or obese with BMI ≥25.0 kg/m<sup>2</sup>. 61.7% urban and 55.2% rural women and 56.2% urban and 52.1% rural men were having high risk waist-to-hip ratio ≥0.85.

#### Anaemia among Children and Adults in Uttar Pradesh (NFHS-5; 5)

65.3% urban and 66.7% rural Children aged 6-59 months were found anaemic with Hb <11.0 g/dl, 50.5% urban and 50.7% rural non-pregnant women age 15-49 years were anaemic with Hb <12.0 g/dl, 37.1% urban and 47.9% rural Pregnant women age 15-49 years were anaemic with Hb <11.0 g/dl, 22.5% urban and 29.9% rural men age 15-19 years were anaemic with Hb <13.0 g/dl (%) and 18.0% urban and 22.7% rural males age 15-49 years were anaemic with Hb <13.0 g/dl.

**Blood Sugar Level among Adults (age 15 years and above) in Uttar Pradesh (Random blood sugar measurement) (NFHS-5; 5)** Blood sugar level - high (141-160 mg/dl) was observed in 5.0% urban and 4.7% rural females, Blood sugar level - very high (>160 mg/dl) in 5.6% urban and 4.2% rural females. While, blood sugar level - high (141-160 mg/dl) was observed in 6.1% urban and 5.7% rural males, Blood sugar level

- very high (>160 mg/dl) in 6.1% urban and 4.6% rural males.

#### Hypertension among Adults (age 15 years and above) in Uttar Pradesh (NFHS-5; 5)

20.9% urban and 17.6% rural women were having elevated blood pressure (Systolic ≥140 mm of Hg and/or Diastolic ≥90 mm of Hg) or taking medicine to control blood pressure while 24.8% urban and 20.7% rural males were having elevated blood pressure (Systolic ≥140 mm of Hg and/or Diastolic ≥90 mm of Hg) or taking medicine to control blood pressure.

**Top 5 causes of years of life lost (YLLs) (India: Health of the Nation's States, 2017; 2):** The top 5 causes of Years of Life Lost for both sexes combined are Ischaemic heart disease, Lower respiratory infections, Diarrhoeal diseases, COPD and Tuberculosis.

**Contribution of top causes of death by age group, both sexes, 2016 (India: Health of the Nation's States, 2017; 1)**

**0-14 years [14.1% of total deaths]-** Diarrhoea/ Lower Respiratory Infections (40.1%), Neonatal disorders (33.7%)

**15-39 years [11.9% of total deaths]-** Suicide & violence (13.6%), HIV/AIDS & tuberculosis (13.5%)

**40-69 years [38.1% of total deaths]-** Cardiovascular diseases (23.7%), Chronic respiratory diseases (18.8%)

**70+ years [35.9% of total deaths]-** Diarrhoea/ Lower Respiratory Infections /other (24.5%), Cardiovascular diseases (24%)

**Top 5 causes of years lived with disability (YLDs) (India: Health of the Nation's States, 2017; 2):** The top five causes of Years Lived with Disability for both sexes combined are Iron-deficiency anaemia, Sense organ diseases, Migraine, Low back & neck pain and Skin diseases.

**Change in the leading cause of DALYs from 1990 to 2016 (India: Health of the Nation's States, 2017; 3)**

Leading causes of death and disability combined has changed from 1990 to 2016. The leading cause of DALYs in 1990 were Diarrhoeal diseases, Lower respiratory infections, Tuberculosis, Tetanus, Measles, Preterm birth complications, Other neonatal disorders, COPD, Neonatal encephalopathy and Intestinal infectious diseases while the leading cause of DALYs in 2016 were reported to be COPD, Diarrhoeal diseases, Ischaemic heart disease, Lower respiratory infections, Tuberculosis, Preterm birth complications, Iron-deficiency anaemia, Road injuries, Other neonatal disorders and Sense organ diseases mainly hearing and vision loss.

As per the above observed disease conditions, the following commonly available medicinal plants have been enlisted based on their properties and therapeutic uses.

**Table 1: Showing commonly available Medicinal plants found in Uttar Pradesh and their therapeutic uses.**

Plant Name in Ayurveda	Botanical Name	Therapeutic uses & Indications
Bilva	<i>Aegle marmelos</i> L. Correa (Rutaceae)	Samgrahika (Antisecretory), Deepan (Digestive, improves appetite) and vata-kapha pacifying. (Caraka Samhita, Sutrasthana 25, 40) Anticancer, antifungal, antidiabetic, antioxidant, hepatoprotective, antibacterial, larvicidal and anti-inflammatory (Sekar <i>et al.</i> , 2011)
Nagarmotha	<i>Cyperus rotundus</i> L. (Cyperaceae)	Samgrahika (anti-secretory), Deepaniya (Digestive, improves appetite) and pachaniya (digestive) (Caraka Samhita, Sutrasthana 25, 40). Anti-diarrheal activity (Uddin <i>et al.</i> , 2006)
Dhanyaka	<i>Coriandrum sativum</i> L. (Umbelliferae)	Grahi (Antidiarrheal), pacifies trishna (thirst), Daha (Burning sensation) and Vomiting (Bhavprakash, Haritakyadi Varga, 88), Ruchikara (Appetizer) (Caraka Samhita, Sutrasthana 27, 173) Anti-oxidant anti-dyslipidemic, anti-hypertensive (Patel <i>et al.</i> , 2012) Anti-microbial, anti-diabetic anxiolytic, anti-epileptic, anti-depressant, anti-mutagenic, anti-inflammatory, neuro-protective and diuretic (Abidhusen, 2012).
Guduchi	<i>Tinospora cordifolia</i> (Willd.) Miers (Menispermaceae)	Pandu (Anemia), Trishna(thirst), Daha (Burning sensation), Prameha (Diabetes), Kasa (Cough), Jwara (Fever) and Kamala (Jaundice) (Bhavprakash, Guduchyadi Varga, 10), Stasnya shodhana. (Caraka Samhita, Sutrasthana, 4, 18) Medhya rasayan (intellect promotor) (Caraka Samhita, Chikitsasthana 1(3), 39) Rejuvenating, anti-diabetic (Grover <i>et al.</i> , 2000), Analgesic (Goel <i>et al.</i> , 2014)
Shunthi	<i>Zingiber officinale</i> Roscoe (Zingiberaceae)	Stanya shodhana (breast milk purifying) (Caraka Samhita, Sutrasthana 4, 18) Digestive, alleviates Constipation, Shwas (Dyspnoea), Kasa (Cough), Shula (Pain), Shlipada (Filariasis), Shotha roga (Inflammation), Arsha (Hemorrhoids) (Bhavprakash, Haritakyadi Varga, 45-48), Anti-oxidant, Anti-inflammatory, Anti-dyslipidemic (Chelsea <i>et al.</i> , 2022)
Patha	<i>Cissampelos pareira</i> L. (Menispermaceae)	Stanya shodhana (breast milk purifying) (Caraka Samhita, Sutrasthana 4, 18). Diarrohea, Fever, Inflammation, Blood purifier (Kumari <i>et al.</i> , 2021)
Neem	<i>Azadirachta indica</i> A. Juss. (Meliaceae)	Krimi (Antimicrobial), Raktaja vikar (Diseases due to impure blood), visha (Anti toxic), Kustha (Skin ailments) (Bhavprakash, Guduchyadi Varga, 95-96, Sushruta Samhita Sutrasthana, 45, 115) Antimicrobial (Senthilkumar <i>et al.</i> , 2018)
Kakmachi	<i>Solanum nigrum</i> L. (Solanaceae)	Rasayana (Anti-oxidant), Shotha (Inflammation), kushtha (Skin diseases), Arsha (Hemorrhoides), Jwara (Fever), Hikka (Hiccup), Chhardi (Vomiting), Hridroga (heart diseases) (Bhavprakash, Guduchyadi Varga, 247) Hepatoprotective activity (Liu <i>et al.</i> , 2016)
Durva	<i>Cynodon dactylon</i> (L.) Pers. (Poaceae)	Visarpa (Erysipelas), Trishna (Thirst), Daha (Burning sensation), Tvak vikar (Skin diseases) Kapha, pitta and raktaja diseases. (Bhavprakash, Guduchyadi Varga, 172-173) Hepatoprotective activity against rifampicin- induced liver damage in albino rats (Javalgikar <i>et al.</i> , 2021).
Shankhapuspi	<i>Convolvulus pluricaulis</i> Choisy (Convolvulaceae)	Medhya Rasayana (Memory enhancer) (Caraka Samhita, Chikitsasthana 1(3), 39), Manasrog (Mental diseases), Pachana (Digestive), Apasmara (Epilepsy), Twak vicar (Skin diseases) (Bhavprakash, Guduchyadi Varga, 269-270) Nervine tonic- beneficial in anxiety, insomnia, cerebral

		abnormalities (Sethiya <i>et al.</i> , 2009)
Bhumyamalki	<i>Phyllanthus niruri</i> L. (Euphorbiaceae)	Pipasa (Thirst), Kasa (Cough), Kapha, pitta & raktaja vikar. (Bhavprakash, Guduchyadi Varga, 278) Hepatotoxicity, hepatitis B Virus and other viral and bacterial diseases (Harish and Shivanandappa 2006)
Lajjalu	<i>Mimosa pudica</i> L. (Mimosaceae)	Kaphaja and paittik diseases, Raktapitta (Bleeding), Atisar (Diarrhoea) (Bhavprakash, Guduchyadi Varga, 272-273)
Ashwagandha	<i>Withania somnifera</i> (L.) Dunal (Solanaceae)	Balya (Tonic), Rasayana (Rejuvenating) and Shukravardhaka (Aphrodisiac), Shvitra (Leucoderma), Kshaya (Pthisis), Shotha (Inflammation) (Bhavprakash, Guduchyadi Varga, 189-190), Rajyakshma (Tuberculosis) (Yoga Ratnakara, Rajyakshma Chikitsa, 1-6) General tonic, Immunomodulator (Leemol and Girija, 2000), Anti-stress (Singh and Malviya 1978)
Tulsi	<i>Ocimum sanctum</i> L. (Lamiaceae)	Hridya (Cardiotonic), Deepan (Digestive, improves appetite) Kustha (Skin diseases), Parshvaruja (Flank pain), Kapha vata vikara. (Bhavprakash, Pushpa Varga, 63) Kasa (Cough), Shwasa (Dyspnoea), Parshvashul. (Caraka Samhita, Sutrasthana, 27, 169). Anti-stress, expectorant, rhinitis, cough dyspnoea, Antimicrobial (Jain <i>et al.</i> , 2022)
Vasa	<i>Adhatoda vasica</i> Nees. (Acanthaceae)	Shwasa (Dyspnoea), Kasa (Cough), Jwara (Fever), Chhardi (Vomiting), Meha, Kustha (Skin diseases), Kshaya (Pthisis) (Bhavprakash, Guduchyadi Varga, 90), Antiasthmatic (Gupta and Prajapati 2010)
Brahmi (Endri)	<i>Bacopa monnieri</i> (L.) Wettst. (Plantaginaceae)	Smritiprada (memory enhancer), pandurog (Anemia), Prameha (Diabetes), Kasa (Cough), Jwara (Fever). (Bhavprakash, Guduchyadi Varga, 279-281) Neurological diseases (Banerjee <i>et al.</i> , 2021) Cognitive functions (James <i>et al.</i> , 2016)
Haridra	<i>Curcuma longa</i> L. (Zingiberaceae)	Pameha (Diabetes), Pandu rog (Anemia), Krimi (Antimicrobial) (Bhavprakash, Haritakyadi Varga, 196-197) Anti-inflammatory, antioxidant, antimutagenic, antidiabetic, antibacterial, hepatoprotective, expectorant and anti-cancerous pharmacological activities (Krup <i>et al.</i> , 2013).
Kantakari	<i>Solanum xanthocarpum</i> Schrad. & H. Wendl. (Solanaceae)	Kasa (Cough), Shwasa (Dyspnoea), Jwara (Fever), Pinas (Sinusitis) (Bhavprakash, Guduchyadi Varga, 41) Digestive, Cough (Gupta <i>et al.</i> , 1999), Anti-asthmatic (Vadnere <i>et al.</i> , 2008)
Shleshmatak	<i>Cordia dichotoma</i> (Ruiz & Pav.) Gürke (Boraginaceae)	Kapha nissarak (Expectorant), Grahi (Anti-secretory) (Sharma P. V. 135-137, Sason and Sharma 2015)
Arka	<i>Calotropis procera</i> (Aiton) Dryand.	Kasa (Cough), Shvasa (Dyspnoea), Skin diseases, Vedanashamak (Pain reliever) (Sharma, 433-435) Cardioprotective (Ahmed <i>et al.</i> , 2004)
Apamarga	<i>Achyranthus aspera</i> L. (Amaranthaceae)	Kasa (cough), Shwas (Dyspnoea) (Sharma P.V., 542-544), Bronchodilator (Rahman <i>et al.</i> , 2017)
Amalaki	<i>Emblica officinale</i> Gaertn. (Euphorbiaceae)	Vaya-sthapana (Anti-aging) (Caraka Samhita, Sutrasthana, 25, 40) Prameha (Diabetes) (Bhavprakash, Haritakyadi Varga, 39), Rasayana (Ankad and Sharma 2002) Antidiabetic (Nanda <i>et al.</i> , 1998)
Meshasringi	<i>Gymnema sylvestre</i> (Retz.) R. Br. (Apocynaceae)	Prameha (Diabetes), Kasa (Cough), Shwasa (Dyspnoea) (Bhavprakash, Guduchyadi Varga, 254-255), Anti-diabetic (Shanmugasundara <i>et al.</i> , 1990)
Babul	<i>Acacia arabica</i> (Lam.) Willd. (Lagumimosae)	Grahi (Antisecretory) (Bhavprakash, Vatadi Varga, 37), Anti-hyperglycemic (Yasir <i>et al.</i> , 2010)
Arjun	<i>Terminalia arjuna</i> (Roxb. ex DC.) Wight & Arn. (Combretaceae)	Hridya (Cardioprotective), Kshaya (Pthisis), Medoroga (Obesity) & Prameha (Diabetes) (Bhavprakash, Vatadi Varga, 27), Cardiotonic & Cardioprotective (Gupta <i>et al.</i> , 2001, Gauthaman <i>et al.</i> , 2001)
Punarnava	<i>Boerhavia diffusa</i> L.	Grahi (Anti-secretory) Deepan (Digestive), Kaphaja,



	(Nyctaginaceae)	Paittik and Raktaja diseases (Bhavprakash, Guduchyadi Varga, 232-233) Hepatoprotective, Cardiotoxic, Anaemia, Immunomodulator, Anti-inflammatory (Mahesh <i>et al.</i> , 2012, Humayun <i>et al.</i> , 2014).
Lashuna	<i>Allium sativum</i> L. (Amaryllidaceae)	Hridrog (Cardiac diseases), Kasa (Cough), Shwasa (Dyspnoea) and Ajirna (Indigestion) (Bhavprakash, Haritakyadi Varga, 222-223). Anti-hyperlipidemic and Anti atherosclerosis (Lata <i>et al.</i> , 1991)
Mandukparni	<i>Centella asiatica</i> (L.) Urb. (Apiaceae)	Smritiprada (memory enhancer) (Bhavprakash, Guduchyadi Varga, 283), Nervine tonic (Sharma <i>et al.</i> , 2005).
Nirgundi	<i>Vitex nirtundo</i> L. (Lamiaceae)	Sandhivata (Osteo-arthritis), Amavata (Rheumatoid arthritis) (Sharangdhara Samhita Madhyama khand, 9, 198), Shula (Pain), Amavata (Rheumatoid Arthritis) (Bhavprakash, Guduchyadi Varga, 113-115). Yakshma (Pthisis) (Chakradatta, 1959), Anti-inflammatory (Dharmasiri <i>et al.</i> , 2003).
Sarpagandha	<i>Rauwolfia serpentina</i> (L.) Benth. Ex. Kurz (Apocynaceae)	Anti-Hypertensive (Mishra and Tubaki 2019)
Shatavari	<i>Asparagus racemosus</i> Willd. (Asparagaceae)	Immunomodulator & Antioxidant (Sivanandham <i>et al.</i> , 2007), cardioprotective (Velavan and Begum, 2007)
Shobhanjan	<i>Moringa oliefera</i> Lam. (Moringaceae)	Chakshushya (Beneficial for eyes), Obesity & Headache (Bhavprakash, Guduchyadi Varga/110), Krimi (Antimicrobial), Kusta (Skin diseases), prameha (Diabetes) & shiroroga (Headache) (Sushruta Samhita, Sutrasthana, 45, 115) Anti-Hyperglycemic (Jaiswal <i>et al.</i> , 2009)

## DISCUSSION

Uttar Pradesh has a diversified flora with medicinal properties. On the basis of above therapeutic uses, commonly found plants can be categorized as per the diseases of concern. Bilva, Nagarmotha, Dhanyaka, Patha, Lajjal, Shleshmatak and Babul are helpful in managing digestive diseases like diarrhoea, dysentery etc. These drugs improve digestion and exhibit sangrahika (antisecretory action in GIT) action. Acute and Chronic respiratory diseases like cough, cold, asthma, allergic cough, rhinitis, COPD can be managed and prevented by medicinal plants like Kantakari, Tulsi, Vasa, Shunthi, Vibhitak, Shleshmatak, Apamarg, Arka, Haridra, Guduchi, Bhumyamalki and Lashuna. Preterm birth complications and Neonatal disorders can be prevented by proper antenatal and perinatal care. Antenatal care through Ayurveda can be practiced by using plants like Shatavari, Ashwagandha, Punarnava and Shobhanjan. Mother's stanyashodhan dravya (breast milk purifying drugs) like Patha, Sunthi, Nagarmotha, Guduchi, and Shatavari can be used. Skin infections in newborns can be prevented by use of panchavalkal (Peepal, Vata, Udumbar, Plaksha and Parish barks) and Neem decoction during bath. Guduchi, Durva, Makoi can be given to prevent and manage Neonatal jaundice. Immuno-booster medicines like Guduchi and Ashwagandha can be given to neonates. Suicide & Violence is a major cause of death in the age group of 15-39 years. Some ayurvedic medicinal plants such as Shankpushpi, Guduchi, Brahmi, Mandukparni and Ashwagandha can be beneficial in boosting the intelligence, relaxing the mind by reducing stress thereby increasing the ability to think and act prudently thus reducing the incidence of

suicide and violence. HIV/AIDS causes reduction in immunity therefore such patients on Anti-Retroviral drugs require immune boosting drugs such as Guduchi, Ashwagandha, Bhumyamalki, Shobhanjan. Plants such as Guduchi, Tulsi, Vasa, Shunthi, Shleshmatak, Nirgundi, Ashwagandha can be beneficial in improving the immunity and bio-availability of Anti-tubercular drugs in Tuberculosis patients. Cardiovascular diseases like Hypertension, Atherosclerosis, Ischaemic heart disease can be managed and prevented by use of Arjun, Ashwagandha, Amla, Punarnava, Lahsun, Shatavari, Dhanyaka, Kakmachi and Sarpagandha. Dyslipidemia can be prevented by Lahsun, Shunthi and Arjun. Obesity is also emerging as a leading cause of disability and is also a risk factor for cardiovascular diseases and diabetes. Arjun, Lashun, Shobhanjan, Amla, Punarnava, Apamarga and Shunthi are beneficial in Obesity. Iron-deficiency anaemia can also be prevented and managed by using Amalaki (*Embllica officinale*) which is a rich source of Vit. C which in turns helps in chelation of Iron, Guduchi, Punarnava, kakmachi, Bhumyamalki, Shobhanjan which are rich in Iron and hepatoprotective can also be used. Diabetes is also a concern these days. Meshashringi, Bilva, Babul, Arjun, Haridra, Amalaki, Guduchi, Shobhanjan, Vasa and Brahmi help in managing blood sugar level. Sense organ diseases mainly hearing and vision loss can be prevented and delayed by rejuvenating and anti-oxidant plants like Dhanyaka, Amlaki, Guduchi, Ashwagandha, Shobhanjan and Shatavari. Headache can be managed by using Shobhanjan, Amalaki and Ashwagandha. Low back & neck pain can be managed by using Nirgundi, Ashwagandha, Punarnava, Shobhanjana and Shunthi. Patha, Nimb, Kakmachi, Durva, Bhumyamalki and Haridra is beneficial in treating skin diseases.

## CONCLUSION

High expenditure over drugs and pharmaceuticals is a problem for developing countries however, rational and cost-effective approach for the treatment could be the solution. In order to achieve this, there is a need to understand and explore the role of native plants which are available nearby easily, to prevent/ manage the most prevalent diseases. This approach may also serve as a tool for customized medication for individual problems as well as patients. It is important to note that local naturally available plants are more suited to the inhabitants. Therefore, it will have a significant impact on healthcare system and lead to a healthy society.

## FUTURE SCOPE

Agricultural techniques may be developed for cultivation of such medicinal plants so that over-exploitation of the natural flora can be prevented. Farmers should be made aware of cultivation of medicinal plants. More global exposure of Indian traditional medicine will uplift the Indian economy.

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