International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435(Online) Volume 14, Issue 11, November 2025)

Some Medicinally Important Spices Used in Unani System of Medicine

Afzal Husain[1], Muhammad Mujassam[2], Mohd Noman Taha[3], Abdullah[4], Abdur Razique[5]

[1]*Assistant Professor, Department of Ilmul Advia, Al-Ameen Unani Medical College & Hospital, Malegaon, Nashik, Mahrashtra, India*

[2]*Professor, Department of IlmulSaidla, Al-Ameen Unani Medical College & Hospital, Malegaon, Nashik, Mahrashtra, India*

[3,4]*Assistant Professor, Department of Ilmul Advia, Deoband Unani Medical College, Hospital and Research Centre, Mahrashtra, India*

[5]*Assistant Professor, Department of Amraze Jild waTazeeniyat, Tipu Sultan Unani medical College, Kalaburagi*

***Abstract*--Spices are an essential component of human life. Treatment is done by herbal drugs in Unani medicine. 25% people of the world are using herbal medicine. Spices have very importance in USM. Base ofUnani medicine is on the concept of four humors: blood, phlegm, bile and black bile, which are believed to be in balance in a healthy individual. Spices are often used to restore the balance of these humors and treat imbalances that can lead to illness.They are not only used for flavouring food but also possess various medicinal properties. They protect from acute and chronic diseases. Some spices like turmeric, ginger, coriander, garlic and black cumin etc. are particularly known for their medicinal properties.**

***Objective*--Objective of this study is to highlight the potential health benefits of some important spices in USM.**

***Material and Methods*-- Relevant literature was collected from classical Unani literature and famous search engine viz, Scopus, PubMed, Google Scholar and Science Direct, using the relevant medical subheadings, Spices in USM, Importance of spices, Spices.**

***Discussion*-- Researches show that a variety of bioactive constituents including sulphur containing compounds, tannins, alkaloids, glycosides, flavonoids, terpenoids and many more are found in spices. These compounds possess diverse range of health benefits.**

***Conclusion*-- According to study result, it can be concluded that the spices possess many health benefits. There are many compound formulations having spices in Unani Medicinethat are indicated in a number of diseases. Traditional uses of spices and its different property like hypoglycaemic property, resolvent property, anti-microbial property and many more activities make them more important drugs.**

***Keywords*-- Spices in USM, Importance of spices, Spices, Spices as drugs, Spices as Medicine.**

I. INTRODUCTION

Spices are used for many purposes like colouring, preserving and flavouring the food and also as a medicine since long time. Theyprotect from acute, chronic and non-communicable diseases.[1]Spices are storehouse of many chemical constituents. These chemical constituents possess medicinal properties.[2,3] Spicy food consumption reduced the risk of mortality of cancer, IHD and respiratory diseases. According to a study, spicy foods are consumed to maintain and improve the health.[4]In a study, it was found that the people who consumed spicy food daily was on a lower risk of death compared with those who did not consumed it daily.[5]Spices are supposed to reduce the preference and intake of salt, hence they decrease blood pressure.[6] It has been proved that clove has anti-cancerous property.[7] China has approved'Elemene' (a chemical constituent of turmeric) for the cancer treatment.[8] In Covid 19,studies were done on common spices for their antiviral property. According to this study, spices were used by many people for the treatment of deadly coronavirus and also to enhance the immunity.[9]

II. STUDIES OF SPICES

Haldi/Turmeric (Curcuma longa).

Traditional uses: Haldi is a very important medicinal plant, it comes under the family of Zingiberaceae.[10] Nigerian people use its rhizome as an herbal infusion and to preserve and flavour the food.[11]Its paste is applied locally to ease pain by Jhalda tribes of West Bengal and in Assam to cure skin diseases and for beauty.[12] Curcumin is used in many countries. It is available in multiple forms, including capsules, energy drinks, soaps, tablets, ointments and cosmetics.[13] In Nepal the paste is applied on wounds and injuries.[14] In Philippines the powder juice is used in arthritis.[15] It is used in diabetes, obesity, indigestion and thrombosis in Colombia.[16]

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435(Online) Volume 14, Issue 11, November 2025)

Pharmacological Studies:

Anti-inflammatory activity: In a study,a cream prepared with Haldi and Sandal Surkh was found to have resolvent property against carrageenan induced hind paw oedema in rats.[17]

Antifertility activity: 50% ethanolic extract of turmeric possess antifertility effects via affecting leydig cell function.[18]

Antihyperlipidemic activity: In a study, haldi was found to have antihyperlipidemic property. It reduces the cholesterol uptake from the gut and prevents coronary problems and heart disease.[19]

Renoprotective activity: Curcumin prevents several mechanisms leading to renal injury. It is a renoprotective molecule.[20]

Anti-ulcer activity: Rhizome 95% ethanolic extract shows antiulcer activity.[21]

Hepatoprotective activity: Turmeric ethanolic extract showed significant hepatoprotective effect against CCL4 induced hepatotoxicity.[17]

Hypoglycaemic activity: In a study,ethanolic extract of turmeric rhizome was found to havehypoglycaemic property against alloxan-induced diabetic rats.[17]

Bactericidal activity: In a study,oil obtained from haldi was found to haveantibacterial property against salmonella, staphylococcus and klebsiella species.[17]

Anti-fungal activity: In a study, oil obtained from turmeric was found to have anti-fungal property against aspergillus, penicillium, microsporum and trichophyton etc.[17]

Gastroprotective activity: In a study, haldi was found to have gastroprotective property against gastric ulcer induced by indomethacin, stress and alcohol.[22]

Respiratory disorders: In a study,curcumin was found to have antiasthmatic propertyin guinea pigs against OVA-induced asthma.[23]

Antiviral and Antiparasitic activity: In a study,curcumin was found to have antiviral and antiparasitic properties against P. falciparum, Leishmania, Epstein–Barr virus and HIV. It is also effective against Covid-19 and modulate cytokine storm in Covid 19 patients.[24]

Antidepressant activity: It has antidepressant property because it hinders monoamine oxidase accumulation in the CNS. Its ethanolic extract increases serotonin, noradrenaline, dopamine and serum corticotrophin-releasing factor levels.[25]

Neuroprotective activity: In a study, curcumin was found to be effective in Parkinson disease. It is also effective in Amyotrophic lateral sclerosis.[26]

Adrak/Ginger (Zingiber officinale Rosc)

Traditional uses: Adrak is commonly known as ginger, it comes under the family of Zingiberaceae.[27]Sudanese and Acehnese people use it for postpartum recovery to avoid infection and inflammation and reproductive organ convalescence.[28] It is combined with *Citrus aurantifolia* and applied to the abdomen to induce uterus contraction and streamline the belly in Negeri Sembilan, Malaysia.[29] Local people of Central Kalimantan consume ginger to heat their body and also to increase the lactation in lactating mothers.[30]Traditional Chinese medicine also claimed this medicinal plant's function for warming and restoring the body after losing blood, especially postnatal care.[31]

Pharmacological Studies:

Anti-parasitic activity: In a study, Adrak was found to have anti-parasitic property against Limnatis nilotica leech.[32]

Hepatoprotective activity: In a study, Adrak was found to have hepatoprotective property against adriamycin induced hepatotoxicityin albino rats.[33]

Gastroprotective activity: In a study, extract of ginger was found to have gastroprotective property. It increased the gastrointestinal motility in 12 healthy volunteers.[34]

Anti-motion sickness activity: In a study, ginger was found to have anti-motion sickness property. It reduced the vomiting tendency.[34]

Anti-inflammatory and antinociceptive activities: In a study, essential oil of ginger was found to haveanti-inflammatory and antinociceptive property in male Swiss mice and male Wistar rats.[35]

Antioxidant activity: In a study, dried ginger extract showed protective effects against H_2O_2 induced oxidative stress in male rats.[36]

Antibacterial activity: In a study, ginger ethanolic extract gave the widest zone of inhibition against one out of two test organisms at the concentration of 20 mg/ml.[37]

Larvicidal activity: In a study, essential oil of ginger was found to have larvicidal property in C. quinquefasciatus and A. aegypti.[38]

Gastroprotective activity: In a study, aqueous extract of ginger was found to have gastroprotective property against stress- induced mucosal lesions.[39]

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435(Online) Volume 14, Issue 11, November 2025)

Cardioprotective activity: In a study, ethanolic extract of ginger was found to have antioxidant property in rats against isoproterenol induced oxidative myocardial injury.[40]

Hypolipidemic activity: In a study, ginger was found to have hypolipidemic property.[41]

*Anti-diabetic activity***:** In a study,raw ginger was found to have anti-diabetic property in STZ-induced diabetic rats.[42]

Kishneez/Coriander (Coriandrum sativum)

Traditional uses: In Iran,leaves of coriander and juice of fruit are consumed for the treatment of anxiety and insomnia.[43]In Germany and Turkey, leaves and fruits are consumed for the problems of indigestion.[44]Its fruit is used as a lactogauge and strengthening agent in Palestine[45]It is used for the menstrual cycle related problem in Srilanka[46]

Pharmacological Studies:

Sedative and Hypnotic activity: In a study, coriander aqueous and hydro-alcoholic extract was found to have sedative and hypnotic property. It increased pentobarbital-induced sleeping time.[47]

Hepatoprotective activity: In a study, coriander extract was found to have hepatoprotective property.[48]

Insecticidal activity: In a study, coriander oil was found to have insecticidal property against bruchid Callosobruchus maculates.[49]

Aflatoxin control: In a study, it was found that coriander oil can control S. cerevisiae, L. acidophilus, A. Niger and Bacillus cereus etc.[50]

Anti-diabetic activity: Seed ethanolic extract possesses anti-diabetic property.[51]

Diuretic activity: Chemical constituents of coriander seeds were analysed for the diuretic effect in anesthetized rats, the outcome indicated an increased infiltration rate with a mechanism similar to the standard drug.[52]

Anti-hypertensive activity: In a study, coriander was found to have anti-hypertensive property in anesthetized rats.[53]

Anti-fungal activity: In a study, essential oil of coriander leaves was found to have anti-fungal property.[53]

Kalonji/Black Cumin (Nigella sativa L.)

Traditional uses: Kalonji is a very important herb. It comes in the family of Ranunculaceae.In Southeast Asian and Middle East countries, it is used in respiratory and other inflammatory disorders. Asian and African use seed oil in eczema and boils.[54]

It is used as an anthelmintic and antiparasitic agent.[55]To preserve the woollen fabrics from insect its oil is scattered in fabrics.[56]

Pharmacological Studies:

Antidyslipidemic activity: In a study, kalonji was found to have antidyslipidemic property when given 1gm in powder form twice a day for 60 days.[57]

Hypoglycaemic activity: In a study, kalonji aqueous extract was found to have hypoglycaemic property in Wistar ratfollowing 14 days of therapy.[57]

*Anti-fungal activity:*In a study, kalonji aqueous extract was found to have anti-fungal property against candidiasis in mice.[58]

Hepato-protective activity: In a study, result shows that an aqueous extract of kalonji seeds has hepatoprotective activity.[58]

Gastro-protective activity: In a study, aqueous suspension of kalonji was found to have anti-ulcer property.[58]

Antioxidant and Antiarthritic activity: In a study, thymoquinone (a chemical constituent of kalonji) was found to have antioxidant and antiarthritic property in Wistar rat.[58]

*Antibacterial activity***:**In a study, kalonji was found to have antibacterial property against staphylococcus aureus.[59]

Anti-inflammatory activity: In a study, aquous extract of kalonji was found to have anti-inflammatory property in animal models.[60]

Toxicological studies: Many toxicological studies have been carried out on kalonji. No toxic effects were reported when kalonji fixed oil was given to mice via the stomach in an acute and chronic toxicity studies.[61]

Lahsan/Garlic (Allium sativum L.)

Traditional uses: It is used for the treatment of cough and fever, also it is locally applied in skin diseases in India.[62]Garlic tea is used for the treatment of fever, headache and diarrhoea in China.[63]

Pharmacological Studies:

Antioxidant activity: In a study, garlic and its derivative compound was found to have antioxidant property.[64]

Antiplatelet and fibrinolytic activity: In a study, garlic was found to have antiplatelet and fibrinolytic property.[65]

Anti-diabetic activity: In a study, garlic extract was found to have anti-diabetic property.[66]

Anti-inflammatory activity: In a study, garlic extract was found to have anti-inflammatory property.[67]

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435(Online) Volume 14, Issue 11, November 2025)

Antifungal Activity: A variety of fungus species were successfully eradicated by garlic extracts.[68]

*Antiviral activity:*In a study, garlic was found to have antiviral property.[69]

Antiprotozoal activity: In a study, garlic extract was found to have antiprotozoal property.[70]

Antihypertensive activity: Garlic powder and its extract are used in hypertension. They significantly reduce systolic and diastolic blood pressure.[71]

Diuretic activity: In a study, garlic was found to have diuretic property.[72]

Anti-Alzheimer's activity: AChE enzyme converts ACh to acetate and choline. ACh depletion in the CNS has been involved in the pathophysiology of AD; garlic bulb oil suppressed AChE activity and exhibit antioxidant properties.[73]

Summary of single drugs is given in Table 1 and 2.

Table 1.
Summary of Single Drugs

Drug Name	**Botanical description and Geographical distribution**	**Chemical Constituents**	**Temperament**
Curcuma longa	A perennial rhizomatous herb, found in India, Bangladesh, Nepal, Malaysia, Indonesia etc.[74,75]	Fiber, Protein, Curcumin, Minerals, Volatile oil etc. [76]	Hot & Dry3°.[77]
Zingiber officinale	A perennial,rhizomatous, tuberous herb, found in India, Africa, Australia, Japan, China, Nigeria etc.[78]	Gingerol, Zingiberol, Myrcene,Isogingerenone, etc.[89]	Hot 3° &Dry 2°.[27]
Coriandrum sativum	An annual plant with white flowers, green leafs, ovate globular seed, found in India, France, Spain, Italy, Pakistan, Turkey.[80]	Alkaloid, Flavonoid, Tannin, Glycoside etc.[81]	Cold & Dry 2°.[82]
Nigella sativa L	An annual herb with black and triangular seed, found in India, Pakistan, Bangladesh, Syria etc.[83]	Volatile oil, Fixed oil, Saponin, Tannins, Nigellicineetc.[84]	Hot & Dry2°.[85]
Allium sativum L	An annual, bulbous herb with long and flat leaves. It is cultivated around the world.[19,86]	Sulphur compounds, Vitamins, Minerals etc.[87]	Hot& Dry 3°.[27]

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435(Online) Volume 14, Issue 11, November 2025)

Table 2.
Summary of Single Drugs

Drug Name	Pharmacological action	Therapeutic uses	Doses
Curcuma longa	Resolvent, Analgesic, Deobstruent, Detergent, Desiccant, Eye tonic, Carminative,Anthelmintic, Antispasmodic, Blood Purifier Stomachic etc.[27,74,88]	Rheumatoid arthritis, Pruritus, Purulent conjunctivitis, Common cold, Bronchitis, Troublesome diarrhoea, Snake bite.[27,74,77]	Powder: 1-3 gm.[77]
Zingiber officinale Rosc.	Liver and Stomach tonic, Laxative, Aromatic, Sialagogue, Rubefacient, Aphrodisiac, Eye Tonic, Nervine Tonic,Desiccant, Expectorant, Antiemetic,Anthelmintic.[27,79, 89]	Dyspepsia, Rheumatism, Dropsy, Asthma, Headache, Migraine, Hoarseness of voice, Colds, Alopecia, Diabetes, Facial palsy etc.[27,79,90]	1-1½ gm.[79]
Coriandrum sativum	Hypnotic, Sedative, Refrigerant, Carminative, Styptic, Resolvent, Exhilarant, Diuretic, Appetizer, Astringent, Tonic to Heart and Stomachetc.[91,82,92,93]	Insomnia, Headache, Vertigo, Weakness of Stomach and Brain, Flatulence, Diarrhoea, Palpitation, Stomatitis, Throat pain, Asthma etc.[82,93,94]	5-7 gm. [82]
Nigella sativa L	Galactogauge, Diuretic, Stomachic, Deobstruent, Abortifacient, Resolvent,Laxative, Anti-diabetic, Antipyretic,Antitussive, Analgesic, Lithotripticetc.[95,79,96,97]	Ascites, Jaundice, Gastric upset, Colic, Piles, Tertian fever, Arthritis, Backache, Paralysis, Headache, Asthma, Kidney stone etc.[98,99,100]	1-2 gm.[27]
Allium sativum L.	Tonic for Innate heat, Stomachic, Aphrodisiac, Anti-inflammatory, Ulcerative, Detergent, Expectorant, Analgesic, Diuretic etc.[101,102,103].	Flatulence, Dropsy, Whooping coughs, Retention of urine, Dysentery, Cholera, Hypertension, Gastritis etc. [84,85,104]	2-3 gm. [85]

III. Discussion

Researches show that a variety of chemical constituents including sulphur containing compounds, tannins, alkaloids, glycosides, flavonoids, terpenoids and many more are found in spices. These compounds possess diverse range of health benefits.Spices are storehouse of many chemical constituents. These chemical constituents possess medicinal properties. Spicy food consumption reduced the risk of mortality of cancer, IHD and respiratory diseases.

IV. Conclusion

According to study result, it can be concluded that the spices possess many health benefits. There are many compound formulations having spices in Unani Medicinethat are indicated in a number of diseases. Beside traditional therapeutic utilization in USM its new indications such as anti-oxidant, anti-inflammatory, anti-carcinogenic, glucose and cholesterol lowering activities, anti-microbial activity etc. make them more important drugs.

REFERENCES

[1] Tapsell, L.C., Hemphill, I., Cobiac, L., Patch, C.S., Sullivan, D.R., French, M., Roodenrys, S., Keogh, J.B., Clifton, P.M., Williams, P.G., Fazio, V.A., &Inge, K.E. (2006) Med. J. Aust. 185, S4–24.

[2] Opara, E.I., &Chohan, M. (2014) Int. J. Mol. Sci. 15, 19183–19202. Doi: 10.3390/ijms151019183.

[3] Tuohy, K.M., Conterno, L., Gasperotti, M., & Viola, R. (2012) J. Agric. Food Chem. 61, 8776–8782. Doi: 10.1021/jf2053959.

[4] Lv, J., Qi, L., Yu, C., Yang, L., Guo, Y., Chen, Y., Bian, Z., Sun, D., Du, J., Ge, P., Tang, Z., Hou, W., Li, Y., Chen, J., Chen, Z., & Li, L. (2015) BMJ. 351, h3942. doi:10.1136/bmj. h3942.

[5] Chopan, M., &Littenberg, B. (2017) PLoS ONE 12, e0169876. doi:10.1371/journal.pone.0169876.

[6] Li, Q., Cui, Y., Jin, R., Lang, H., Yu, H., Sun, F., He, C., Ma, T., Li, Y., Zhou, X., Liu, D., Jia, H., Chen, X., & Zhu, Z. (2017) Hypertension 70, 1291–1299. doi:10.1161/ HYPERTENSIONAHA.117.09950.

[7] Central Council for Research in Ayurvedic Sciences, Ministry of Ayush. Ayush for Cancer Care. New Delhi: Ministry of Ayush; 2015. p. 143-7.

[8] Aggarwal BB, Yuan W, Li S, Gupta SC. Curcuminfree turmeric exhibits anti-inflammatory and anticancer activities: Identification of novel components of turmeric. MolNutr Food Res 2013; 57:1529-42.

[9] Singh NA, Kumar P, Jyoti S, Kumar N. Spices and herbs: Potential antiviral preventives and immunity boosters during COVID-19. Phytother Res 2021;35:1-13.

[10] B.T Tung, D.T Nham, N.T Hai, D.K. Thu, curcuma longa, the polyphenoliccurcumin compound and pharmacological effects on liver, diet. Intervent. Liver dis. (2019**)** 125-134.

[11] Wahono, C. S., Wahyuni, Z. D., and Kalim, H. (2017). Effect of Curcuma XanthorrhizaSuplementation in Vitamin D3 Administration towards Proteinuria, Serum Anti-dsDNA and IL-17 Levels on Systemic Lupus Erythematosus (SLE) Patients with Hypovitamin. D Int. J. Clin. Rheumatol. 12, 121–129.

[12] Zhang, Y., Cao, H., Yu, Z., Peng, H. Y., and Zhang, C. J. (2013). Curcumin Inhibits Endometriosis Endometrial Cells by Reducing Estradiol Production. Iran J. Reprod. Med. 11 (5), 415–422.

[13] Goud, V. K., Polasa, K., and Krishnaswamy, K. (1993). Effect of Turmeric on Xenobiotic Metabolising Enzymes. Plant Foods Hum. Nutr. 44 (1), 87–92. doi:10.1007/BF01088486.

[14] G. Singh i. KapoorP.singh, C.S. De Heluani, M.P. De Lampasona, C.A. Catalon comparative study of chemical composition and antioxidant activity of fresh and dry rhizomes of turmeric (curcuma longa linn, food chem. Toxicol. 48 (2010),1026-1031.

[15] R. abe, k. ohtani, an ethnobotanical study of medicinal plants and traditional therapies on batan island, the Philippines, j. ethnopharmacol. 145(2013)554-565.

[16] R. bussmann, P.Z. NY C.romero, R.E.hart astonishing diversity-the medicinal plant markets of Bogota Colombia, j.ethnobiol. Ethnomed. (2018)14.

[17] Rastogi, RP. Mehrotra, BN. Compendium of Indian Medicinal Plants, Vol. 2, CSIR, New Delhi. 1999, pp. 233.

[18] Purohit, A., Bhagat, M. and Vantipalli, V. Antispermatogenic Efficacy of Curcuma longa in Albino Rats, Hamdard Medicus. 2005, Vol. XLVIII, issue No.3, pp. 28-30.

[19] Anonymous. The Wealth of India (Raw Materials), Vol. 2, Publication and Information Directorate, CSIR, New Delhi. 2001, pp. 264-265,275,281,286-289,292, 181-185.

[20] Tapia, E., Trujilo, J., Chirino, Y.I., Jijon, E.M., Romero, A.C.A., Chaverri, J.P. Renoprotective Effect of the Anti-oxidant Curcumin: Recent Findings, Redox Biology. 2013, Vol. 1, Issue 1, pp. 448-456.

[21] Ross, I.A. Medicinal Plants of the World, Vol. 1, Humana Press, Totowa, New Jersey. 2003, pp. 103-123, 228-229, 231-233, 235, 239.

[22] Rafatullah, S., Tariq, M., Al-Yahya, M. A., Mossa, J. S., and Ageel, A. M. (1990). Evaluation of Turmeric (Curcuma Longa) for Gastric and Duodenal Antiulcer Activity in Rats. J. Ethnopharmacol 29 (1), 25–34. doi:10.1016/0378-8741(90)90094.

[23] Ram, A., Das, M., and Ghosh, B. (2003). Curcumin Attenuates Allergen-Induced Airway Hyperresponsiveness in Sensitized guinea Pigs. Biol. Pharm. Bull. 26 (7), 1021–1024. doi:10.1248/bpb.26.1021.

[24] Taher, M. M., Lammering, G., Hershey, C., and Valerie, K. (2003). Curcumin Inhibits Ultraviolet Light Induced Human Immunodeficiency Virus Gene Expression. Mol. Cel Biochem 254 (1), 289–297. doi:10.1023/a: 1027393719610.

[25] Yu, Z. F., Kong, L. D., and Chen, Y. (2002). Antidepressant Activity of Aqueous Extracts of Curcuma Longa in Mice. J. Ethnopharmacol 83 (1-2), 161–165. doi:10.1016/s0378-8741(02)00211-8.

[26] Dohare, P., Garg, P., Sharma, U., Jagannathan, N. R., and Ray, M. (2008). Neuroprotective Efficacy and Therapeutic Window of Curcuma Oil: in Rat Embolic Stroke Model. BMC Complement. Altern. Med. 8 (1), 55–20. Doi: 10. 1186/1472-6882-8-55.

[27] Anonymous. The Unani Pharmacopoeia of India, Part-I, Vol. 1, Ministry of Health and Family Welfare, Deptt. Of AYUSH, Govt. of India, New Delhi. 2007, pp. 90-91. 88-89, 19-20, 42-43.

[28] Rosadi S D, Nisyawati N &Putrika A, Plants diversity on postpartum recovery medical used in sundanese community forecourts in Ciburial village, Banten, In: AIP Conference Proceedings, Volume 2023, (2018) 020117-1-020117-4.

[29] Jamal J A, Ghafar Z A & Husain K, Medicinal plants used for postnatal care in Malay traditional medicine in the Peninsular Malaysia, Pharmacogn J, 3 (24) (2011) 15-24.

[30] Santoso E A, Jumari J &Utami S, Inventory of medicinal plants for pregnant and postpartum women in Dayak Tomun of The Lopus Village Lamandau Regency of Central Kalimantan, Biosaintifika, J BiolBiol Edu, 11 (1) (2019) 25-31.).

[31] Mishra R K, Kumar A& Kumar A, Pharmacological activity of Zingiber officinale, Int J Pharm ChemSci, 1 (3) (2012) 1073-1078.).

[32] Forouzan S, Mahmoud Bahmani, PouyaParsaei, Ava Mohsenzadegan, MajidGholami-Ahangaran, EhsanallahSadeghi, Kourosh Saki, Mohammad Delirrad. Anti-Parasitic Activites of Zingiber officinale Methanolic Extract on Limnatis nilotica. Global Veterinaria. 2012; 9:144-148.

[33] Sakr SA, Mahran HA, Lamfon HA. Protective effect of ginger (Zingiber officinale) on Adriamycin - induced hepatotoxicity in albino rats. J Med Plant Res. 2011;5:133-140.

[34] Barrett M. The Handbook of Clinically Tested Herbal Remedies. Vol. 1. New York, USA: The Haworth Herbal Press, 2004.

[35] Vendruscolo A, Takaki I, Bersani-Amado LE, Dantas JA, Bersani-Amado CA, Cuman RKN. Antiinflammatory and antinociceptive activities of Zingiber officinale Roscoe essential oil in experimental animal models. Indian J Pharmacol. 2006;138:58-59.

[36] Al-Katib SM, Al-Khashab EM, Kalo MS, Hamdoon AA. The Antioxidant Effects of Flavonoids and non Flavonoid Part Extracted from Ginger (Zingiber officinale) Roots. JouRaf Sci. 2009; 20:18-31.

[37] Auta KI, Galadima AA, Bassey JU, Olowoniyi OD, Moses OO and Yako AB. Antimicrobial properties of the ethanolic extracts of Zingiber officinale (Ginger) on Escherichia coli and Pseudomonas areuginosa. Ann Biol Res. 2011; 2:307-311.

[38] Khandagle AJ, Tare VS, Raut KD, Morey RA. Bioactivity of essential oils of Zingiber officinalis and Achyranthesaspera against mosquitoes. Parasitol Res. 2011; 109:339-343.

[39] Nanjundaiah SM, Annaiah HN, Dharmesh SM. Gastroprotective Effect of Ginger Rhizome (Zingiber officinale) Extract: Role of Gallic Acid and Cinnamic Acid in H+, K+- ATPase/H. pylori Inhibition and Anti-Oxidative Mechanism. Evid Based Complement Alternat Med. 2011; 2011:249487.

[40] Ansari MN, Bhandari U, Pillai KK. Ethanolic of Zingiber officinale R. extract pretreatment alleviates isoproterenolinduced oxidative myocardial necrosis in rats. Indian J Exp Biol. 2006;44:892-897.

[41] Navaei RA, FatemehRoozbeh, MehrdadSaravai, Mehdi Pouramir, FarzadJalali, AliMoghadamnia A. Investigation of the effect of ginger on the lipid levels: A double blind controlled clinical trial. Saudi Med J. 2008;29:1280-1284.

[42] Al-Amin ZM, Thomson M, Al-Qattan KK, Peltonen-Shalaby R, Ali M. Anti-diabetic and hypolipidaemic properties of ginger (Zingiber officinale) in streptozotocin-induced diabetic rats. Br J Nutr. 2006;96:660-666.

[43] Ugulu I, Baslar S, Yorek N, Dogan Y. The investigation and quantitative ethnobotanical evaluation of medicinal plants used around Izmir province, Turkey. Journal of Medicinal plants research 2009 May 31; 3(5): 345-67.

[44] Abu-Rabia A. Herbs as a food and medicine source in Palestine. Asian Pacific Journal of Cancer Prevention 2005 Jul 1; 6(3): 404.

[45] Jesuthasan AS, Uluwaduge DI. Ethnobotanics used in folk medicine of Tamil culture in Sri Lanka: a scientific review. Journal of integrative medicine 2017 Jan 1; 15(1): 19-26.

[46] Momin AH, Acharya SS, Gajjar AV. Coriandrum Sativum- Review of Advances in Phyto pharmacology, International Journal of Pharmaceutical Science and Research. 2012; 3(5):1233-1239.

[47] Pandey A, Bigoniya P, Raj V, Patel KK. Pharmacological Screening of Coriandrum sativum Linn. For Hepatoprotective Activity. Journal of Pharmacy and Bioallied Sciences. 2011; 3(3):435-41.

[48] Basilico MZ, Basilico JC. Inhibitory effects of some spice essential oils on Aspergillus ochraceus NRRL 3174 growth and ochratoxin a production. Letters in Applied Microbiology 1999 Oct; 29(4): 238-41.

[49] Meena MF. Antimicrobial activity of essential oils from spices. J. Food Sci. Technol 1994; 31: 68-70.

[50] Tahraoui A, El-Hilaly J, Israili ZH, Lyoussi B. Ethnopharmacological survey of plants used in the traditional treatment of hypertension and diabetes in southeastern Morocco (Errachidia province). Journal of Ethnopharmacology 2007 Mar 1; 110(1): 105-17.

[51] Jagtap AG, Shirke SS, Phadke AS. Effect of polyherbal formulation on experimental models of inflammatory bowel diseases. Journal of Ethnopharmacology 2004 Feb 1; 90(2- 3): 195-204

[52] De Almeida Freires I, Murata RM, Furletti VF, Sartoratto A, de Alencar SM, Figueira GM, de Oliveira Rodrigues JA, Duarte MC, Rosalen PL. Coriandrum sativum L. (coriander) essential oil: antifungal activity and mode of action on Candida spp., and molecular targets affected in human whole-genome expression. PLoS One 2014 Jun 5; 9(6): e99086.

[53] Ahmad W, Khan RM, Zeenat F, et al. Therapeutics, phytochemistry and pharmacology of an important Unani drug kalonji (Nigella sativa Linn): A review. European journal of pharmaceutical and medical research. 2017; 4(7):329-346.

[54] Akhtar, M.S. &Rifaat, S. 1991. Field trial of Saussurealappa roots against nematodes and Nigella sativa seeds against cestodes in children. Journal of the Pakistan Medical Association 41: 185–187.

[55] Korshom M., Moghney, A.A. &Mandour, A. 1998. Biochemical and parasitological evaluation of Nigella sativa against ruminant fluke (Paramphistomum) in sheep as compared with trematocide "Hapadex". Assiut. Vaternary Med. J. 39 (78): 238–244.

[56] Dwivedi, S. N., Dwivedi, Sangeeta& Patel, P. C. "Medicinal Plants used by the tribals and rural people of Satna district, Madhya Pradesh for the treatment of gastrointestinal disease and disorders", Nat. Pro. Rad. (2006), 5(1): 60-63. 10.

[57] Shamim Ahmed, Alam A, Ahmad Z, Shoneez (Nigella sativa) and its therapeutic effect in Unani Medicine – A Review, International Journal of Pharma Sciences and Research. 2015; 6 (1):12-14.

[58] Bashir F, Akhtar J, Anjum N, et al. Kalonji (nigella sativa): transformation from herb to multifunctional medicine. Journal of Emerging Technologies and Innovative Research. 2018;5(8):132-141.

[59] Bakathir HA, Abbas NA. Detection of the antibacterial effect of Nigella sativa ground seeds with water. Afr J TraditComplAltern Med 2011; 8(2): 159-164.

[60] Alemi M, Sabouni F, Sanjarian F, Haghbeen K, Ansari S. Antiinflammatory effect of seeds and callus of Nigella sativa L. extracts on mix glial cells with regard to their thymoquinone content. AAPS Pharm Sci Tech 2012 Dec 19.

[61] Zaoui A, Cherrah Y, Mahassini N, Alaoui K, Amarouch H, Hassar M. Acute and chronic toxicity of Nigella sativa fixed oil. Phytomedicine 2002; 9(1): 69-74.

[62] Qiu Z, Qiao Y, Zhang B, Sun-Waterhouse D, Zheng Z. Bioactive polysaccharides and oligosaccharides from garlic (Allium sativum L.): production, physicochemical and biological properties, and structure–function relationships. Comprehens Rev Food Sci Food Saf. (2022) 21:3033–95. Doi: 10.1111/1541-4337. 12972.

[63] Sato T, Miyata G. The Nutraceutical Benefit, Part IV: Garlic. Nutrition, 2000; 16:787-788.

[64] Patiño-Morales, C. C., Jaime-Cruz, R., Sánchez-Gómez, C., Corona, J. C., Hernández-Cruz, E. Y., Kalinova-Jelezova, I., … & Salazar-García, M. (2021). Antitumor effects of natural compounds derived from Allium sativum on neuroblastoma: an overview. Antioxidants, 11(1), 48

[65] Bathaei, F. S., &Akhondzadeh, S. (2008). Cardiovascular effects of allium sativum (garlic): an evidence-based review. The Journal of Tehran University Heart Center, 3(1), 5-10.

[66] Singh, R., & Singh, K. (2019). Garlic: A spice with wide medicinal actions. Journal of Pharmacognosy and Phytochemistry, 8(1), 1349-1355.

[67] Nasir, A., Fatma, G., Neshat, N., & Ahmad, M. A. (2020). Pharmacological and therapeutic attributes of garlic (Allium sativum Linn.) with special reference to Unani medicine—A review. J. Med. Plants Stud, 8(3), 6-9.

[68] El, F., Hasib, A., Bouilli, A., Bousada, L., &Abidi, O. (2021). Phytochemical compounds and Pharmacological Activities of Garlic (Allium sativum L.): A Review. Moroccan Journal of Public Health, 3(2), 47-64.

[69] Tsai Y, Cole LL, Davis LE, Lockwood SJ, Simmons V, Wild GC. Antiviral properties of garlic: in vitro effects on influenza B, herpes simplex and coxsackie viruses. Planta Med. 1985; 8:460-461.

[70] Reuter HD, Koch HP, Lawson LD. Therapeutic effects and applications of garlic and its preparations. Pages 135- 213 in H. P. Koch and L. D. Lawson, editors. Garlic: the science and therapeutic application of Allium sativum L. and related species. Williams and Wilkins, Baltimore, Maryland, USA, 1996.

[71] Silagy CA, Neil HA. A meta-analysis of the effect of garlic on blood pressure. J Hypertens. 1994; 12:463-8.

[72] Ali M. Mechanism by which garlic (Allium sativum) inhibits cyclooxygenase activity. Effect of raw versus boiled garlic extract on the synthesis of prostanoids. Prostaglandins LeukotEssent Fatty Acids. 1995; 53(6):397-400.

[73] Akinyemi, A.J., LekanFaboya, A.P., Awonegan, I.O., Anadozie, S., Oluwasola, T.A. (2018) Antioxidant and anti-Acetylcholinesterase activities of essential oils from garlic (Allium sativum) Bulbs. Int. J. Plant Res.; 1(4) 29-31).

[74] Chopra, RN., Chopra, IC, Handa, KC and Kapoor, LD. Indigenous Drugs of India. U.N. Dhur and Sons Pvt. Ltd, Calcutta. 1958, pp. 325-327.

[75] S. Prasad, B.B. Aggarwal, turmeric, the golden spice, herbal medicine: biomolecular and clinical aspects, 2nd edition, 2011.

[76] Uma Pradeep, K., Geervani, P., and Eggum, B. O. (1993). Common Indian Spices: Nutrient Composition, Consumption and Contribution to Dietary Value. Plant Foods Hum. Nutr. 44 (2), 137–148. Doi: 10.1007/BF01088378.

[77] Ghani, N. Khazainul Advia, Vol. 1, Idara Kitabul-Shifa, Matba S.H. Offset Press, New Delhi. 2005, pp. 1357- 1358, 1197.

[78] Ross, I.A., 2005. Medicinal plants of the world, humana press, New Jersey, vol 1, pp.139-143.

[79] Kabeeruddin M, Makhzanal Mufradat. New Delhi: Ejaz Publishing House; YNM: 366-367, 460-461.

[80] Bhuiyan MN, Begum J, Sultana M. Chemical composition of leaf and seed essential oil of Coriandrum sativum L. from Bangladesh. Bangladesh Journal of Pharmacology 2009 Dec 17; 4(2): 150-3.

[81] Amiri MS, Joharchi MR. Ethnobotanical Investigation of Traditional Medicinal Plants Commercialized in the Markets of Mashhad, Iran. Avicenna Journal of Phytomedicine, 2013; 3(3):254-71.

[82] Ghani N. Khazain-ul-Advia CCRUM, New Delhi, 2010, 704-706.

[83] Naz, H. 2011. Nigella sativa: the miraculous herb. Pak. J. Biochem. Mol. Biol. 44: 44-48.

[84] Nadkarni KM. Indian plants and drugs. New Delhi, India: Srishti book distributors 2005. 26-27.

[85] Usmani MI. Tanqihul-Mufradat, Famous offset Press Delhi, 2008; 162-163,201-202, 222-223.

[86] Londhe VP. Role of garlic (Allium sativum) in various diseases: an overview. Angiogenesis. (2011) 12:13.

[87] Hussain, M. S., Singh, M., Kumar, B., Tewari, D., Mansoor, S., & Ganesh, N. (2020). Antimicrobial activity in ethanolic extracts of Bixaorellana L., Simaroubaglauca DC, and Ocimumtenuiflorum L. collected from JNCH herbal garden. World Journal of Pharmaceutical Research, 9(4), 650-663.

[88] Nadkarni, KM. Indian Materia Medica, Vol. 1, Popular Prakashan, Bombay. 2000, pp. 414-417.

[89] Khare CP. Encyclopedia of Indian Medicinal plants. Germany: Verlag Berlin Heidelberg, 2004, 354-356.

[90] Evans WC. Trease and Evans pharmacognosy, 15th Ed, Elsevier, 2008, 52.

[91] Nadkarni KM, Indian Materia Medica, Vol. 1. Popular Prakashan Private Limited Mumbai. 1982; pp. 854-57.

[92] Haleem HMA. Mufradat-e-Azizi, CCRUM, New Delhi, 2009; 13(16):18-32.

[93] Hakeem MA. Bustan-ul-Mufradat, IdaraKitab-us-Shifa, New Delhi, 2002; 22-24, 138-39, 106.

[94] Heider M. Coriandrum sativum in: Applications of plants Prevention and Treatment of Illnesses. Persian 1992; 1(257): 252.

[95] Baitar, ZA. Al-Jamiul-Mufridat al-Advia Wal-Aghzia (Urdu Translation), Vol. 3, CCRUM, New Delhi. 1999, pp. 266, 156-58.

[96] Anonymous. Standardization of single drugs of Unani medicine, part I. CCRUM, Ministry of Health and Family Welfare, Govt. of India, New Delhi; 1987: 190 -195.

[97] Khan M. Akram, Chemical composition and medicinal properties of Nigella sativa Linn. Inflammopharmacology, (1999). Vol.7, No.1, p.15-35.

[98] Anonymous, Standardization of Single Drug of Unani medicine. Part 2. CCRUM, New Delhi. 1992; pp. 196-200.

[99] Kirtikar KR, Basu BD. Indian medicinal plant Vol.1. 2nd Edition. Lalit Mohan Basu Allahabad India, (1987). p. 11-12.

[100] Nadkarni K.M. Indian materiamedica Published by Bombay Popular Prakashan, Vol.2. P. 297.

[101] Ibn Sīnā. (1987) Al-Qānūnfi'lṬibb, Vol. II, Institute of History of Medicine and Medical Research, New Delhi, p.p.108-109.

[102] Ibn Bayṭār. (1985) Al-Jāmi'li-Mufradāt al-AdviyawalAghdhiya (Urdu translation), Vol. I, Central Council for Research in Unani Medicine, New Delhi, p.p.377-382.

[103] Al- Harawi, M.B.Y. (2002) A'yn al-Hyāt (Editing-Prof. Hakim Syed ZillurRahman), Ibn Sīna Academy, Aligarh. p.52.

[104] Safiuddin AS. Unani Advia mufrada. 10th Ed. New Delhi: Qaumi Council BaraeFarogh Urdu Zaban. 2004; 65: 250-52p, 230-231.

Corresponding Author. Dr. Afzal Husain.

Email: afzalhusain1601@gmail.com.