IJAYUSH
International Journal of AYUSH
AYURVEDA, YOGA, UNANI, SIDDHA AND HOMEOPATHY
http://internationaljournal.org.in/journal/index.php/ijayush/

International Journal
Panacea
Research library
ISSN: 2349 7025

Review Article | Volume 10 Issue 05 | Sept – Oct 2021

MA'JUN SANA: AN IMPORTANT UNANI FORMULATION FOR THE MANAGEMENT OF MULTIPLE DISEASES

Khadija Abdul Hafiz[1]*, Davinder Kumar[2], Dr. Imran Khan[3], Kaleem Ahmad [4]

[1]*Ph.D. Research Scholar, Dept. of Ilmul Advia (Pharmacology), National Institute of Unani Medicine, Bengaluru-91, India.

[2]Medical officer, Rajkiya Unani Chikitsalya, Incholi, Meerut, U.P-250001, India.

[3]Assistant Professor, Dept. of Ilmul Advia (Pharmacology), National Institute of Unani Medicine, Bengaluru-91, India.

[4]Ph.D. Research Scholar, Dept. of Moalijat (Medicine), National Institute of Unani Medicine, Bengaluru-91, India.

*Corresponding Author's Email ID: khadijaabdulhafeez@gmail.com

Abstract

Background: *Ma'jun Sana* is an important and well known formulation of Unani System of Medicine, claimed to be effective for the management of diseases of stomach, intestine, brain and joints.

Aim of the study: To evaluate the therapeutic effect of *Ma'jun Sana* on the basis of pharmacological action and pharmacological studies of its ingredients.

Methodology: A bibliographic database for review of literature on *Ma'jun Sana* was undertaken using the viz. Pub Med, Google Scholar, Science Direct, and Scopus. The information was also collected from different books of Unani literature and conventional medical science.

Result: *Ma'jun Sana* & it's ingredients have laxative & purgative property due to presence of anthraquinone glycoside whereas some ingredient has antioxidant property that strengthens the body organ & these activities are proved by different in vitro & experimental studies.

Conclusion: *Ma'jun Sana* has proven to be beneficial to counter the effects of constipation. So, more scientific studies and clinical trials are needed on this compound formulation to ensure its scientific validation for clinical use in patients in general and in elderly in particular.

Keyword: *Ma'jun Sana*; laxative; purgative; antioxidant

Introduction

Unani system of Medicine (USM) is one among oldest system of medicine which has been practiced since ancient time for the treatment of range of diseases. The roots of USM based on the philosophy of Hippocrates, and his medical principles of the doctor-patient relationship are still followed.[1] The USM follows the principal of antagonism (*Ilaj-Bil-Zid*) for treatment & the methods of treatment are divided into four different parts namely diet therapy (*Ilaj-Bil-Ghida*), regimental therapy (*Ilaj-Bil-Tadbeer*), surgery (*Ilaj-Bil-Yad*) and pharmacotherapy (*Ilaj-Bil-Dawa*). The pharmacotherapy of the Unani medicine is largely based on the naturally occurring drugs of the plant, animal and mineral/metal origin and out of all these drugs the plant origin are in the majority.[2] India is sitting on a goldmine of well-recorded and traditionally well practiced knowledge of herbal medicine. This country is the largest producer of medicinal herbs and is rightly called the "Botanical garden of the world".[3]

Unani single drugs as well as their formulations have been used widely for centuries owing to their natural origin and lesser side effects.[4] Among the all formulations, *Ma'jun Sana* (*MS*) is an important Unani pharmacopoeial preparation being useful as a strong purgative which is prepared by thirteen ingredients, but the number of ingredient is different in various authentic reference books of Unani literature (Table no 01 & 02) viz, *Barg-e-Sana* (*Cassia angustifolia* Vahl.), *Gul-e-Surkh* (*Rosa damascene* Mill.), *Badranjboya* (*Melissa officinalis* Linn.), *Barg-e-Gauzaban* (*Borago officinalis* Linn.), *Gul-e-Banafsha* (*Viola odorata* Linn.), *Aslus-soos* (*Glycyrrhiza glabra* Linn.), *Anjeer Zard* (*Ficus carica* Linn.), *Maweez Munaqqa* (*Vitis vinifera* Linn.), *Unnab* (*Zizyphus jujuba* Mill.), *Sapistan* (*Cordia dichotoma*), *Halela Siyah* (*Terminalia chebula* Retz.), *Halela Zard* (*Terminalia chebula* Retz.), & *Kishmish* (*Vitis vinifera* Linn.)[5,6] & among them most of the ingredients have laxative, concoctive & purgative therapeutic properties.

So, *Ma'jun Sana* has a curative property for all those diseases which are the cause of accumulation or congestion of morbid matters by evacuating (*Istifragh)* the morbid matter from intestine & whole body. So, *Ma'jun Sana* is useful especially in constipation (*Husr*), [5,6] literal meaning of *Husr* is "to hold", in this condition as the intestines hold the stool inside them it is known as *Qabd*.[7] So, the aim of this review paper is to evaluate the therapeutic

effect of *Ma'jun Sana* on the basis of pharmacological action and pharmacological studies of its ingredients.

Method of Preparation

For making *Ma'jun* or any of its different types of preparations, base (*Qiwam*) of different consistencies (*tar*) is generally needed that depends on the nature of ingredient drugs to be used. The *Qiwam* is generally made by adding water (*Aab*), distillate (*Arq*) or fruit juices (*Aab-e-samar*), etc. in any of the bases of purified honey, sugar, candy or jaggery etc. and boiled over a low fire till it acquires a required consistency. The bases are generally purified by adding lemon juice (*Aab-e-lemu*), lemon extract (*Satt-e-lemu*), or Alum (*Shibbe yamani*) before making *Qiwam*. After that the ingredients are mixed in *Qiwam* to prepare *Ma'jun*. *Qiwam* for *Ma'jun* is of two *tar*.[8] *Ma'jun Sana* is made on the same principle while using water with sugar or honey as a base and boiled over low fire till consistency (*Qiwam*) of two *tar* is achieved. The ingredients of *MS* are *Gul-e-Surkh, Badranjboya, Barg-e-Gauzaban, Gul-e-Banafsha, Anjeer Zard, Maweez Munaqqa*, *Unnab, Sapistan* are soaked in 750 ml of water for one night then boil it in morning till it reach 84ml. Then filtered it and add 250gm of sugar in the filtrate & make *Qiwam* then add fine powder of *Kishmish* in the *Qiwam*. The powder of *Halela Siyah, Halela Zard* & *Barg-e-Sana* is roasted (*charb*) with *Roghan-e-badam* & mix with the *Qiwam*.[5]

Dosage and Administration

Two different therapeutic doses have been mentioned i.e. 1g to 3g with 144 ml of *Arq Badiyan* or with water in the morning[6] and 6g to 18 gm at bed time.[5]

Action and Uses

It is effective in the treatment of General headache (*Suda*), headache due to flatulence (*Suda-e-Rihi*) & colic (*Qoolanj*), by the action of purgation (*Dast-aawer*).[5,9,10,11,12,14] It is also effective in disorder due to black bile (*Saudawi amraz*),[5,10] joint pain & fever (*Humma*) by evacuation of morbid matter from joint (*Tanqiya-e-Mawad Mafasil*),[11] evacuation of morbid matter from brain (*Tanqiya-e-Dimagh*).[13] & blood purifier (*Musaffi-e-dam*),[12] action. It also removes predominant materials from the body[11] and corrects abnormal humors (*Akhlat-e-Muhtarqa*).[12]

Table 1: Formula of Preparation of *Ma'jun Sana* according to Byaz-e-Khas[5]

Barg-e-Sana (*Cassia angustifolia* Vahl.)	96gm
Gul-e-Surkh (*Rosa damascene* Mill.)	12gm
Badranjboya (*Melissa officinalis* Linn.)	12gm
Barg-e-Gauzaban (*Borago officinalis* Linn.)	12gm
Gul-e-Banafsha (*Viola odorata* Linn.)	12gm
Aslus-soos (*Glycyrrhiza glabra* Linn.)	12gm
Anjeer Zard (*Ficus carica* Linn.)	10 piece
Maweez Munaqqa (*Vitis vinifera* Linn.)	20 piece
Unnab (*Zizyphus jujuba* Mill.)	20 piece
Sapistan (*Cordia dichotoma* G.Forst)	100 piece
Halela Siyah (*Terminalia chebula* Retz.)	60gm
Post Halela Zard (*Terminalia chebula* Retz.)	36gm
Kishmish (*Vitis vinifera* Linn.)	250

Table 2: Formula of Preparation of *Ma'jun Sana* according to Hamdard Pharmacopoeia of Eastern Medicine[14]

Aftimun (*Cuscuta reflexa* Roxb.)	50gm
Barg-e-Sana (*Cassia angustifolia* Vahl.)	160gm
Bisfaij (*Polypodium vulgare* Linn.)	50gm
Turbud safaid (*Ipomoea turpethum* (L.) Silva Manso.)	50gm
Zanjabeel (*Zingiber officinale* Roscoe.)	6gm
Gul-e-Banafsha (*Viola odorata* Linn.)	50gm

Methodology

A bibliographic database for review of literature on ingredients of *Ma'jun Sana* was undertaken using the viz. Pub Med, Google Scholar, Science Direct, and Scopus. The information was also collected from different books of Unani literature and conventional medical science.

Results & Discussion

Table 3: Brief Description of Ingredients of *Ma'jun Sana*

Drugs	Dose	Functions	Uses	Chemical constituents	Scientific studies
Leaves of *Sana Makki* (*Cassia angustifolia* Vahl.)	As Laxative 3-5 gm, as Purgative 7-9 gm,[15,16] 5-10gm.[17]	Purgative,[16,17,18,19] Detergent,[16,17] Vermicidal,[16] Blood purifier, Deobstruent,[16,17] Anti-emetic, Vrmifuge.[17]	Piles,[20] Arthritis, Sciatica, Gout, Low backache, Pruritus,[17] Colitis, Dyspnoea.[17,21]	Glycosides,[15,17] Flavonoids, Steroids, Resin,[17] Anthraquinone,[15,17,22] β-sitosterol, Sennoside A, B, C, D,[23] Pelargonidin 5-O-β-D-galactoside.[24]	Laxative,[25] Antibacterial,[26] Antioxidant,[27] Hepatoprotective,[28] Hypolipidemic,[29] Anti-emetic.[30]
Petals of *Gul-e-Surkh* (*Rosa damascene* Mill.)	5g-7g,[16,17] Fresh flower 2g-6g, Dry flower 4g-10g.[31]	Purgative (phlegm), Antiseptic,[17] Anti-inflammatory,[18,32] Cardiac tonic, Astringent,[17,18,32,33,34] Exhilarant, Attenuent, Styptic, Derivative,[32] Liver, General, Intestine, Stomach, & Uterine tonic, Detergent, Vital tonic, Brain tonic, Deobstruent, Analgesic, [16,17] Visual tonic. [31]	Constipation,[31] Palpitation,[16,17,33] Stomatitis,[17] General weakness, Warts, Eye pain, Headache,[35] Syncope,[16,35] Conjunctivitis, Haemoptysis.[17,35]	Flavonoids, Anthocyanins, Carboxylic acid, Vitamin C, Fatty oil, β-citronellol.[36]	Laxative,[37] Antibacterial,[36] Antiulcer, Antioxidant,[38] CNS Depressant,[39] Anti-Narcosis,[40] Nephroprotective.[41]

Leaf of *Badranjboya* (*Melissa officinalis* Linn.)	7g,[16,42] 5-7g.[17]	Exhiliarant,[16,17,19,43] Cardiac tonic,[17,19,34,] Brain tonic, Attenuent,[33,42,43] Deobstruent for brain,[19,33,43] Blood purifier, Resolvent,[16,17] Calorific,[16] Black bile concoctive,[16,17] Stomach relaxant, Digestive,[19] Carminative, Liver relaxant & tonic,[19,43] Astringent, Emmenagogue, Antipyretic.[42]	Constipation Palpitation, Syncope, Hiccups, Dysentry,[33] Joint pain,[16,17,33,42] Epilepsy, Hemiplegia, Facial paralysis,[16,17] Mastitis, Removes bad smell of mouth (bad breathing),[16] Hysteria, Hemorrhides,[42] Odontalgia, Headach,[18,42] Anxiety Neurosis, Ulcer, Diphtheria, Spasmodic abdominal pain, Dyspnoes, Apoplexy, Diseases of the Teeth, Chronic cough, Leprosy, Cardiac pain.[42,43,44]	Coumarin, Essential oil,[45] Glycosides, Flavonoids, Sesquiterpene, Tannins.[17,18]	Memory-improving,[46] Antispasmodic, Antioxidant,[47] Anti-Tumor.[48]
Leaves of *Gauzaban* (*Borago officinalis* Linn.)	*Safoof*; 7g- 17g, *Joshanda and Khisanda*; 17g-36g, Juice of fresh leaves; 108ml, *Arq*; 108ml.[34]	Astringent, Blood purifier, Antispasmodic, Expectorant, Cardiac tonic,[17] Exhilarant, Demulscent, Bile purgative,[19] Visceral tonic, Laxative.[16,17]	Dyspnoea,[16,17,33] Jaundice, Palpitation, Catarrh, Coryza, Cough, Stomatitis, Acute Diarrhea, Hemorrhoids, Vaginal Discharge, Premature Ejaculation,[16,17,42] Rheumatoid Arthritis, Stress, Depression, Preventing Heart disease and Stroke.[18]	Glucoside, Beta-sitosterol, cholesterol,[17] Ascorbic acid,[18] Fructose, Amino acids, Tannin, Protein,[18,45] Alkaloids,[45] Essential oil, Fatty acids, Mucilage.[17]	Hepatoprotective,[50] Antioxidant,[51] Nootropic.[52]

Root of *Aslus-soos* (*Glycyrrhiza glabra* Linn.)	3-7g,[16,17] 2-4 g.[18,22]	Laxative,[53] Resolvent, Antispasmodic,[16] Nervine tonic,[16,32,33] Expectorant,[16,53] Detregent,[16,19] Carminative,[16,32] Diuretic, Emmunogauge,[16,17,33,54] Antipyretic,[16,33] Analgesic,[31] Visual tonic,[33] Anti-inflammatory,[32] Bile purgative.[54]	Cough,[18,54,55] Burning micturation,[19] Piles,[33] Asthma,[16,17,32,33] Diseases of phlegm & black bile, Diseases of liver, stomach & spleen, Syphlis,[16] Bronchitis,[54] Abdominal colic,[18,54] Headache,[33] Wounds,[43] Chronic fever,[19,35,43] Pterygium,[35] Ulcers.[16,19,35]	Glycyrrhizin, Glycyrrhizic acid,[17,18,22] Asparagines, Sugar, Resin, Starch,[17,22] Triterpene, Saponin, Aglycones, Coumarins, Gums, Volatile oils,[18] Flavonoid, Starch, Glucose, Sucrose.[44]	Antiulcer, Anti-tussive, Expectoran,[56] Immunomodulatory,[57] Anti cancerous,[58] Antifungal,[59] Antibacterial[60]
Fruit of *Kishmish / Maweez Munaqqa* (*Vitis vinifera* Linn.)	5-10 g,[18,22] 3 in number,[19] 5-9 in number,[17] 6-10 in number.[33]	Laxative,[31,32,43,54,] Anti-inflammatory,[17] Vermifuge,[19] Brain tonic,[32] Deobstruent, Attenuent, Aphrodisiac, General & visceral tonic,[17] Detergent,[33] Carminative.[34]	Nausea,[31,35] Gastric pain, Acidity,[35] Generalized weakness,[17] Cough,[18,31] Catarrh, Jaundice,[18,54] Good for lungs, liver and kidney, Chronic fever,[55] Piles, Leucoderma,[19] Enlarged liver, spleen, Anaemia, Dyspepsia,[18] Palpitation, diseases of phlegm & black bile.[34]	Carbohydrates,[22] Tannins,[17,18,22,] Flavonoids,[17] Sugar,[17,18] Glycosides, Vitamins A, B1, B2, C, Minerals,[18] Catechin, Anthocyanins, Cholesterol, β-sitosterol, Ergosterol.[49]	Antioxidant,[61] Anti-inflammatory, Anticancer,[62] Antidiabetic,[63] Antibacterial.[64]
Fruit of *Unnab* (*Zizyphus jujuba* Mill.)	5-7 in number,[16] 15 in number.[42]	Purgative, Blood purifier,[32,33,43] Styptic,[33] Analgesic.[32]	Cough,[16,33,43] Useful in lung disease, Diarrhea, Urticaria,[33] Asthma,[43] Coryza, Sinusitis, Syphilis,	Jujubosides, Saponins,[18] Mucilage, Vitamin C, Proteins, Sugar, Triterpenoic	Hypoglycemic, Hypolipidemic,[66] Antipyretic,[67] Anti-

			Bilious fever, Small pox, Nephralgia, Cystalgia,[35] Chronic bronchitis, Enlargement of the liver.[54]	acids, Phenolic compounds.[65]	obese, Antifungal,[68] Antihelmintic.[69]
Fruit of *Sapistan* (*Cordia dichotoma*)	9-15 in number,[16] 10-20 in number,[33] 30 in number.[34,42]	Demulscent,[16,32,33] Expectorant,[16,32,43] Anti-inflammatory, Antihemintic, Calorific.[35,42,43]	Dry cough,[16,32,33,42,43] Sinusitis,[16] Bilious fever,[16,34] Burning micturation,[16,33,43] Syphilis, laryngitis.[42]	Glucose, Lactose, Fructose,[49] Carbohydrates, Glycosides, Flavonoids, Tannins, Saponins, Terpene, β-sitosterol.[70]	Hypolipidemic,[71] Hepatoprotective, Anti-Inflammatory,[70] Antiulcer.[72]
Stem, bark, Fruit of *Halela Zard* & *Halela Siyah* (*Terminalia chebula* Retz.)	5-7g,[16] *Joshanda wa Khisanda* 35 ml,[21] 3-6 g in powder form.[18,22,73]	Brain tonic, Desiccant, Stomach intestine, liver, & spleen tonic,[16,34] Purgative of black bile,[16] Diuretic,[15] Blood purifier, Cardiac tonic, Laxative, Improve digestion, Astringent.[34,42]	Facial paralysis, Leprosy, Piles, Diarrhoea,[16,19] Amenorrhoea,[15] Palpitation,[19] Dysentry, Vomiting, Hiccough, Eye diseases, Heart diseases, Bladder diseases, Vesicular calculi, Urinary discharge, Ascites, Biliousness, Inflammation, Tumours, Typhoid fever, Leucoderma, Dyspnoea, Itching, Pain, Constipation, Anemia, Gout, Elephantiasis, Delirium, Snake bite, Asthma, Sore throat, [54] Cataract, Infantile diarrhea, Skin disorders, Conjunctivitis, Chronic ulcer.[34]	Chebulin,[15] Ellagic acid,[73,74] Gallic acid,[18,73,75] Anthroquinone,[18,74] Tannin, Beta-sitosterol, Chebulic acid, Glycosides, Alkaloids, Flavonoids, Phenolic compounds, Saponin, Steroids, Quinine, Sterols, Amino acids, Fixed oil.[74,75]	Laxative,[76] Antioxidant,[77] Analgesic, Anti-inflammation,[78] Antibacterial, Antifungal,[79] Wound healing.[80]

Flower of *Banafsha* (*Viola odorata* Linn.)	*Joshanda*- 24 g,[33] 7 g to 14 g.[21]	Laxative,[16,34,35,42] Purgative,[33,35] Antipyretic,[19,33] Anti-inflammatory,[17,33,35] Antidote of poisons,[33] Produce blood of moderate temperament, Diuretic, Antispasmodic, Analgesic, Sedative,[35,42] Demulscent, Diaphoretic, Expectorant.[17,34,35,42]	Meningitis,[35] Coryza,[17,31,33] Burning micturation,[33] Scabies, Nephralgia, Conjunctivitis,[16,35] Insomnia, Renal Colic, Palpitation, Fainting, Hepatitis, Gastritis, Headache, Epilepsy, Catarrh, Cough, Diphtheria, Pneumonia and Pleurisy,[16,17,34,35,42] Antidote of poisons.[33]	Alkaloid Violine,[17,45] Glycoside, Saponins,[17,81] Mucilage,[18,81] Vitamin C,[81] Phenolics, Coumarins, Anthrocyanin,[18] Resin, Sterols, Triterpenes, Potassium, Magnesium, Sodium, Iron, Flavonoids, Tannins.[17]	Laxative,[81] Neuroprotective,[82] Antimycobacterial,[83] Pre-Anesthetic,[84] Anticancer, Antibacterial, Antipyretic.[81]
Fruit of *Anjeer zard* (*Ficus carica* Linn.)	10-12 number,[17] 4-5 number.[31]	Laxative,[18,32,33,35] Expectorant, Analgesic,[18] Anti-inflammatory,[17,18,32,33] Detergent,[19,31,32,33,35] Dissolvent, Elicite the internal humors,[35,42] Demulcent,[17,32,33,54,55] Febrifuge, Emollient,[54] Nutritive,[31,35,54] Aphrodisiac, Anti-pyretic.[31,33]	Constipation,[18,31,54] Cough,[19,31,33] Tumours, Swellings, Abscesses,[18] Epilepsy,[17,19,33] Cataract, Inflammation of the Spleen, Dyspnoea,[17] Hemorrhagia, Menorrhagia, Small pox, Hepatomegaly, Hemiplegia, Palpitation, Piles, Asthma.[37,42]	Glycosides, Proteins/ Amino acids, Resins, Reducing sugar, Steroids/ triterpenes, Tannins Fixed oils, Potassium, Calcium, Magnesium, Iron, Copper, Phosphate,[17] Ascorbic Acid, β-Carotene, γ-Carotene, Glucose, Gallic acid, Vitamin A, Threonine, Thiamin.[85]	Memory enhancing,[86] Immunomodulatory,[87] Antibacterial,[88] Hepatoprotective, Anti fungal, Anti-pyretic,[89] Antidiarrhoeal.[90]

Verities of different functions and studies of *Ma'jun Sana* is attributed to its various ingredients which is mentioned in table no.03, among them purgation & laxative are the common action. Laxatives drugs that soften the morbid matter or fluid present in intestine whereas purgatives are those drugs which help in the expulsion of morbid humours in the form of loose motions by intestines. This mode of treatment is generally adopted for the evacuation of bad humours of stomach, intestines, liver, brain and joints. Almost all the ingredients of this formulation have laxative or purgation potency & also some studies related to its ingredients showed significant result such as crude aqueous extract of *Terminalia chebula* showed significant dose dependent laxative effect in comparison to standard Bisacodyl drug in animal model,[76] Butanolic and aqueous extracts (200 and 400 mg/kg, p.o.) of *Viola odorata* showed good laxative effect in rats.[91] Laxative effects of figs (*Ficus carica* L.) in a beagle model of constipation induced by high protein diet and movement restriction which significantly increased faecal quantity in constipated dogs, and segmental CTT was also reduced. Fig cellulose increases faecal excretion by increasing water content and bulk, and elevating viscosity, and that both water-soluble and insoluble cellulose increases faecal ejection.[92] Licorice and DGL have a mild laxative effect and can protect the intestinal lining by increasing the production of mucus, thus alleviating heartburn and ulcers.[93]

The laxative effect of *Sana Makki* is due to the action of sennosides and their active metabolite, rhein-anthrone, in the colon by an influence on the motility of the large intestine (The laxative effect is realized by the inhibition of water and electrolyte absorption from the large intestine, which increases the volume and pressure of the intestinal contents. This will stimulate colon motility resulting in propulsive contractions) & influence on secretion processes (Stimulation of active chloride secretion increases water and electrolyte content of the intestine. These changes in active electrolyte transport are dependent on calcium in serosal surface) and this secretion is mediated by stimulation of endogenous prostaglandin E2 formation.[25] Boiled extract of *R. damascena* significantly increased faeces number and its percentage of water, but had no effects on the transit time of intestinal ingestin[37] whereas one clinical experiment revealed *Z. jujuba* extract an effective and safe treatment for chronic constipation.[94] This action of *Ma'jun Sana* is due to

the chemical constituents present in them specially anthraquinone derivatives which are present mostly in their glycosylated form. Upon oral ingestion, β-glycosidic linkage between the sugar and the anthraquinone ring, the compounds bypass hydrolysis in the stomach and the action of α-glucosidase enzymes in the small intestine, thus carried unchanged to the large intestine where reductive cleavage of the sugar moiety by bacterial β-glucosidase and reductase converts the glycosylated compounds into the corresponding pharmacologically active aglycones, then act locally on epithelial cells in the large intestine causing alterations in absorption, excretion, and/or motility of the gut leading to diarrhea.[95]

Conclusion

It is concluded that the *Ma'jun Sana* is one of the best Unani formulation with a lot of health benefits. It has proven to be beneficial to counter the effects of constipation. However clinical trials or scientific studies are lacking on *Ma'jun Sana* as a compound drug. So, more scientific studies and clinical trials are needed on this compound formulation to ensure its scientific validation for clinical use in patients in general and in elderly in particular.

Acknowledgement

Authors are thankful to all the library staff of National Institute of Unani Medicine (NIUM), Bengaluru-91 for providing classical literature, manuscripts and other necessary materials on the subject.

Conflict of interest

None

References:

1. Mayer D. Brief History of Medicine and Statistics. Essential Evidence-Based Medicine. USA: Cambridge University Press; 2009.
2. Mosihuzzaman M, Chaudhary MI. Protocols on Safety, Efficacy, Standardization, and Documentation of Herbal Medicine. Pure Appl Chem 2008; 809: 2195-2230.
3. Hariharan P, Subburaju T. Medicinal Plants and its Standardization. A Global and Industrial Overview. Global Journal of Medicinal Plant Research 2012; 1: 10-13.

4. Vaidya ADB, Devasagayam TPA. Current status of herbal drugs in India, An overview. J Clin Biochem 2007; 41: 1-11.
5. Khan HMS. Bayaz-e-Khaas Al-Maroof Ilajul Amraz (Urdu Translation by Kabiruddin HM). New Delhi: Ejaz Publication House; 2006.
6. Kabiruddin. Bayaz-e-Kabeer. Part 1st. Lahore: Shaikh Mohd. Bashir & Sons; 2006.
7. Anonymous. Standard Unani Medical Terminology. New Delhi: Central Council for Research in Unani Medicine Department of AYUSH, Ministry of Health & Family Welfare, Government of India; 2012.
8. Rashid B, Zarnigar, Mohd. Younis P, Itrat M, Tarique M. Review of Majoone Falasfa-A Unani formulation. The Pharma Innovation Journal 2015; 3: 83-88.
9. Hafeez A. Qarabadeen Jadeed. New Delhi: CCRUM; 2005.
10. Unani Tibbi Conference. Qarabadeen Majeedi. 9th Ed. New Delhi: All India Unani & Tibbi Conference; 1986.
11. Kabiruddin HM. Al-Qarabadeen. New Delhi: CCRUM; 2006.
12. Ghani HN. Qarabadeen Najmul Ghani. New Delhi: CCRUM; 2010.
13. Arzani Ma. Qarabadeen Qadri. New Delhi: Ejaz Publications; 1998.
14. Said HM. Hamdard Pharmacopoeia of Eastern Medicine. Delhi: Sri Satguru Publications; 1997.
15. Anonymous. Standardization of single Drugs of Unani Medicine. Part1st & part 5th. New Delhi; CCRUM, Ministry of Health and Family Welfare, Department of AYUSH; 2006.
16. Kabeeruddin AHM. Makhzan-Ul-Mufradat. New Delhi: Idara Kitab-Us-Shifa; 2010.
17. Anonymous. The Unani Pharmacopoeia of India, Vol. 1st. Part 1st and part I, Vol. 3, Part 1 Vol. 2, part I, Vol. 5. New Delhi: Ministry of Health and Family Welfare, Department Of AYUSH; 2007.
18. Khare CP. Indian Medicinal Plants. New Delhi: Springer Private Limited; 2007.
19. Saeed A. Kitab Al Fatah Fi Al Tadawi (Urdu Translation). Delhi: NCPC Printers; 2007.
20. Abdul Hakeem HM. Bustanul Mufradat. New Delhi: Idara Kitabus Shifa; 2002.
21. Bagdadi IH. Kitabul Mukhtarat Fit Tib. Part. 2nd. 1st ed. New Delhi: CCRUM Ministry of Health and Family Welfare, Govt of India; 2005.

22. Anonymous. The Ayurvedic Pharmacopoeia of India. Vol. 1st. Part 1st.and Vol. 3. Part 1st. New Delhi: Ministry of Health and Family Welfare, Department Of AYUSH; 2001.
23. Bhalsing SR, Deshpande HA. Recent Advances in the Phytochemistry of Some Medicinally Important Cassia Species: A Review. Int. J. Pharm. Med. & Bio. Sc. 2013; 2: 60-78.
24. Ganapaty S, Thomas PS, Ramana KV, Vidyadhar K, Chakradhar V. A Review of Phytochemical Studies of Cassia Species. Journal of Natural Remedies 2002; 2: 102-20.
25. Ramchander, Jalwal P, Middha A. Recent advances on senna as a laxative: A comprehensive review. Journal of Pharmacognosy and Phytochemistry 2017; 6: 349-53.
26. Saeidi S, Bameri Z, Boroujeni NA, Bazi S. Antibacterial Activity of Cassia angustifolia Extract Against Some Human Pathogenic Bacteria. Journal of Novel Applied Sciences 2013; 2: 584-86.
27. Memon S, Laghari A, Nelofar A, Laghari A. Extraction, Identification and Antioxidative Properties of the Flavonoid-Rich Fractions from Leaves and Flowers of Cassia Angustifolia. American Journal of Analytical Chemistry 2011; 2: 871-78.
28. Mohan V, Shanmugasundaram R, Devi V, Tresina P, Maruthupandian A. Hepatoprotective Activity of Ethanol Extracts of Clitoria ternatea L. and Cassia angustifolia Vahl. Leaf Against Ccl_4 Induced Liver Toxicity In Rats. International Research Journal of Pharmacy 2010; 1: 201-05.
29. Nanumala. SK, Nischal Y, Sarika M, Shravya GSS. Hypolipidemic activity Of Ethanolic Extracts of Cassia angustifolia in Triton- X 100 Induced Hyperlipidemia in Rats. Asian J Pharm Clin Res 2014; 7: 189-91.
30. Ahmed S, Zahid A, Abidi S, Meer S. Anti-Emetic Activity Of Four Species Of Genus Cassia In Chicks. IOSR Journal of Pharmacy 2012; 3: 380-84.
31. Multani HC. Hindustan wa Pakistan Ki Jadi Booti. Part 4. Lahore: Maktaba Daniyal; YNM.
32. Hakim HM. Mufradat Azeezi. New Delhi: CCRUM; 2009.
33. Kabeeruddin HM. Ilmul Adviya Nafeesi Ma Zameema. New Delhi: Ejaz Publishing House; 2007.

34. Ghani HN. Khazainul Advia. New Delhi: Idara Kitabul Shifa; YNM.
35. Sina I. Al-Qanoon Fit Tib. Vol. 2.nd (English translation By Dept. of Islamic Studies Jamia Hamdard). New Delhi: S. Waris Nawab, Senior Press Supreintendent; 1998.
36. Boskabady MH, Shafei MN, Saberi Z, Amini S. Pharmacological Effects of Rosa Damascena. Iranian Journal of Basic Medical Sciences 2011; 14: 295-07.
37. Kazerani HR, Arezoomandan R, Behnam-Rasooli MB. The Laxative and Prokinetic Effects of Rosa damascena Mill in Rats. Iranian Journal of Basic Medical Sciences 2010; 14:9-16.
38. Venkateswarlu G, Naga sudha B, Reddy YS, Kumar SV, Raghavendra HG, Kumar HMS. Evaluation of antiulcer and in-vitro antioxidant activities of Rosa damascena Mill. Asian Journal of Phytomedicine and Clinical Research 2013; 1: 167-79.
39. Nyeem MAB, Alam MA, Awal MA, Mostofa M, Uddin SJ, Islam N, et al. CNS Depressant Effect of the Crude Ethanolic Extract of the Flowering Tops of Rosa damascena. Iranian journal of pharmacology & therapeutics 2006; 5: 171-74.
40. Munawwar HK, Raza M, Zafar S. Anti-narcosis effects of essential oil of Rosa damascena mill after inhalation in rats. Journal of Environmental Research and Development 2013; 7: 1610-13.
41. Khaliq T, Mumtaz F, Rahman Z, Javed I, Iftikhar A. Nephroprotective Potential of Rosa damascena Mill Flowers, Cichorium intybus Linn Roots and Their Mixtures on Gentamicin-Induced Toxicity in Albino Rabbits. Pakistan Veterinary Journal 2015; 35: 43-47.
42. Khan MA. Muheete Aazm. Vol.3rd. New Delhi: CCRUM, Ministry of Health and Family Welfare, Govt. of India; 2014.
43. Baitar I. Al Jame ul Mufradat ul Advia wal Aghzia (Urdu translation). Vol. 1st. New Delhi: CCRUM, Ministry of Health and Family Welfare, Govt. of India; 1985.
44. Bhattacharjee PSK. Handbook of Medicinal Plants. 4th ed. Jaipur: CRC Press, Pointer Publishers; 2004.
45. Anonymous, The Wealth of India-A Dictionary of Indian raw Materials. Vol. 2nd, 6th, 9th, 11th. New Delhi; National Institute of Science Communication and Information Resources, Council of Scientific and Industrial Research; 2006.

46. Soodi M, Naghdi N, Hajimehdipoor H, Choopani S, Sahraei E. Memory-improving activity of Melissa officinalis extract in naïve and scopolamine-treated rats. Research in Pharmaceutical Sciences 2014; 9: 107-14.
47. Noorul Basar SN, Zaman R. An Overview of Badranjboya (Melissa officinalis). International Research Journal of Biological Sciences 2013; 2: 107-09.
48. Turan M. Antitumoral Effects of Melissa officinalis on Breast Cancer in Vitro and in Vivo. Asian Pacific Journal of Cancer Prevention 2012; 13: 2765-70.
49. Rastogi RP. Compendium of Indian medicinal plants. Vol-1st, 2nd, 3rd, 4th, 5th. Lucknow, New Delhi: CDRI, NISCIR; 1960-1969, 1970-1979, 1980-1984, 1985-1989, 1990-1994.
50. Wahid A, Hamed AN. Hepatoprotective activity of Borago officinalis extract against CCl4 induced hepatotoxicity in rats. Journal of Natural Products 2015; 8: 113-22.
51. Ahmad S, Singh M, Kamal YT, Khan MA, Parveen R. In Vitro Antioxidant Activity and HPTLC Analysis of Borago Officinalis Linn. Indian Journal of Pharmaceutical Education and Research 2013; 47: 24-30.
52. Giri M, Swamy BMV, Jayaveera KN. Evaluation of Adaptogenic Activity of Unani Herb Borago Officinalis. Research and Reviews: Journal of Pharmacy and Pharmaceutical Sciences 2013; 2: 10-15.
53. Anonymous. The Useful Plant of India. New Delhi; National Institute of Science Communication. 2000.
54. Kriticar KR, Basu MBD. Indian Medicinal Plants. Vol. 1. Dehradun: International book distributors; 2008.
55. Anonymous. Flora medica. 2001 ed. New Delhi: Ajay book service; 2001.
56. Sharma V, Agrawal RC. Glycyrrhiza glabra- a plant for the future. Mintage journal of Pharmaceutical & Medical Science 2013; 3: 15-20.
57. Mazumder PM, Pattnayak S, Parvani H, Sasma D, Rathinavelusamy P. Evaluation of immunomodulatory activity of Glycyrhiza glabra L. roots in combination with zing. Asian Pacific Journal of Tropical Biomedicine 2012; 15-20.
58. Rathi SG, Suthar M, Patel P, Bhaskar VH, Rajgor NB. In-vitro Cytotoxic Screening of Glycyrrhiza glabra L. (Fabaceae): A Natural Anticancer Drug. J Young Pharm 2009; 1: 239-43.

59. Mahmoudabadi AZ, Iravani M, Khazrei A. Anti-fungal activity of Glycyrrhiza glabra (Licorice) against vaginal isolates of Candida. Bio Technology an Indian Journal 2009; 3: 75-77.
60. Nitalikar MM, KMunde KC, Dhore BV, Shikalgar SN. Studies of Antibacterial Activities of Glycyrrhiza glabra Root Extract. International Journal of Pharm Tech 2010; 2: 899-901.
61. Rathi P, Rajput CS. Antioxidant Potential of Grapes (Vitis vinifera) A Review. Journal of drug delivery and therapeutics 2014; 4: 102-04.
62. Lucian LM, Lazar SL, Lazar M, Ciuzan O, Pamfil D. Pharmacological effects of bioactive compounds from Vitis vinifera (Grape). Pro Environment. 2015; 8: 439-44.
63. Ergun F, Sendogdu N, Aslam M, Orhan DD, Yesilada E. Antidiabetic and Antioxidant effects of Vitis vinifera L. Leaves in Streptozotocin Diabetic rats. Turkish J. Pharm Sci. 2006; 3: 7-18.
64. Ahmad W. In vitro Antibacterial Activity of Vitis vinifera leaf Extracts against some pathogenic bacterial strains. Advances in Biological Research 2014; 8: 62-67.
65. Asgarpanah J, Haghighat E. A Review of Phytochemistry and Meidicnal Properties of Jujube (Ziziphus vulgaris L.). Journal of Pharmaceutical and Health Sciences 2012; 1: 89-97.
66. Balakrishnan A, Pamaiah B. Hypoglycemic and Hypolipidemic Effects of Zizyphus jujuba Lam. In Streptozotocin-Induced Diabetic Rats. Research Journal of Pharmaceutical, Biological and Chemical Sciences 2013; 4: 611-16.
67. Balakrishnan A, Balasubramaniyam PD, Natesan SK. Antipyretic Activity of Zizyphus jujube Mill. Leaves. Journal of Advanced Scientific Research 2012; 3: 40-42.
68. Preeti, Tripathi S. Ziziphus Jujuba: A Phytopharmacologycal Review. International Journal of Research and Development in Pharmacy and Life Sciences 2014; 3: 995-96.
69. Veeresh, Kambhoja S. Antihelmintic activity of Zizyphus Jujuba Mill. International Journal of Pharma and Bio Sciences 2011; 2: 508-12.
70. Patel AK, Pathak N, Trivedi H, Gavania M, Patel M, Panchal N. Phytopharmacological properties of Cordia dichotoma as a potential medicinal tree: an overview. International Journal of Institutional Pharmacy and Life Sciences 2011; 1: 40-51.

71. Sulieman AM, El-Newary SA. Hypolipidemic Effect of Cordia dichotoma Forst. Pulp in High-fat Diet-Fed Rats. World Journal of Dairy & Food Sciences 2014; 9: 260-71.
72. Shah D, Nitin M, Prasad K, Limbani B. Gastroprotective and antiulcer effect of Cardia dichotoma. International research journal of pharmacy 2011; 2: 70-72.
73. Gupta AK. Quality standards of the Indian medicinal plants. Vol. 1st. New Delhi: ICMR; 2003.
74. Vaibhav D, Aher, Kumar A, Wahi. Immunomodulatory effect of alcoholic extract of Terminalia chebula ripe fruits. J. Pharm. Sci. and Res 2010; 2: 539-44.
75. Chopra RN. Glossary of Indian Medicinal Plants. New Delhi; National Institute of Science Communication and Information Resources, CSIR; 2009.
76. Suresh C, Shachi S, Maurya M. Comparative laxative evaluation for Andrographis paniculata and Terminalia chebula in experimental animal model. International research journal of pharmacy 2013; 4: 167-69.
77. Balaji K, Ni LH, Rajindran B, Sikarwar MS, Fuloria N, Fuloria S. Determination of Total Phenolic, Flavonoid Content and Antioxidant Activity of Terminalia Chebula (Fruit). Research Journal of Pharmaceutical, Biological and Chemical Sciences 2015; 6: 413-17.
78. Haque MM, Jami. SI, Sultana Z, Ali ME, Begum MM. Evaluation of analgesic and anti-inflammatory activities on ethanolic extraction of Terminalia chebula fruits in experimental animal models. American journal of plant sciences 2014; 5: 63-69.
79. Zearah SA. Antifungal and antibacterial activity of flavonoid extract from Terminalia Chebula Retz. Fruits. Journal of Basrah Researches Sciences 2014; 40: 122-31.
80. Phachonpai W. Assessment of Neuropharmacological Activities of Terminalia Chebula in Rats. American Journal of Pharmacology and Toxicology 2012; 7: 41-48.
81. Mittal P, Gupta V, Goswami M, Thakur N, Bansal P. Phytochemical and Pharmacological Potential of Viola odorata. International journal of pharmacognosy 2015; 2: 215-20.
82. Ghorbani A, Mousavi SH, Naghizade B, Pourgonabadi S. Protective effect of Viola tricolor and Viola odorata extracts on serum/glucose deprivation-induced neurotoxicity role of reactive oxygen. Avicenna journal of Phytomedicine 2016; 6: 434-41.

83. Hassan F, Naeem I. Biological activity of Viola odorata Linn. Against Mycobacterium Tuberculosis. International Journal of Pharma and Bio Sciences 2014; 5: 61-69.
84. Monadi A, Rezaie A. Evaluation of Sedative and Pre-Anesthetic Effects of Viola odorata Linn. Extract Compared With Diazepam in Rats. Bulletin of Environment, Pharmacology and Life Sciences 2013; 2: 125-31.
85. Marwat SK, et al. Medicinal and Pharmacological Potentiality of the Plant At-Tin-Common Fig (Ficus carica L.). Asian Journal of Chemistry 2011; 23: 1-10.
86. Vasundhara S, Hafsa A, Rajiv G. Memory Enhancing Effects of Ficus carica leaves in Hexane extract on interoceptive Behavioral Models. Asian J Pharm Clin Res 2013; 6: 109-13.
87. Patil VV, Shandavi C, Bhangale, Patil VR. Studies on Immunomodulatory Activity Of Ficus Carica. Int L Pharm Sci 2010; 2: 97-99.
88. Askari GA. In Vitro Antimicrobial Activity Of Aqueous And Ethanolic Extracts Of Leaves Of Ficus Carica Collected From Five Different Regions Of Morocco. J. Mater. Environ. Sci 2013; 4: 33-38.
89. Vikas VP, Bhangale SC, Patil VR. Evaluation of anti-pyretic potential of Ficus carica leaves. International Journal of Pharmaceutical Sciences Review and Research 2010; 2: 48-50.
90. Dhungana P, Devi P, Borthakur SK. Pharmaceutical properties of Indian species of Ficus Linn. International Journal of Pharmacy & Life Sciences 2013; 4: 2314-2319.
91. Vishal A, Parveen K, Pooja S, Kannappan N, Kumard S. Diuretic, Laxative and Toxicity Studies of Viola odorata Aerial Parts. Pharmacologyonline 2009; 1: 739-748.
92. Oh HG, Lee HY, Seo MY, Kang YR, Kim JH, Park JW. Effects of Ficus carica paste on constipation induced by a high-protein feed and movement restriction in beagles. Lab Anim Res 2011; 27: 275-81.
93. Sharma V, Agrawal RC. Glycyrrhiza glabra- A plant for the future. Mintage journal of Pharmaceutical & Medical Sciences 2013; 2: 15-20.
94. Naftali T, Feingelernt H, Lesin Y, Rauchwarger A, Konikoff FM. Ziziphus jujuba Extract for the Treatment of Chronic Idiopathic Constipation: A Controlled Clinical Trial. Digestion 2008; 78: 224-228. DOI: 10.1159/000190975.
95. Malik EM, Muller CE. Anthraquinones as Pharmacological Tools and Drugs. Medicinal Research Reviews 2016; 36: 705-48. DOI 10.1002/med.21391.