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Role of Unani Herbal Formulation of Sumbul-Ut-teeb (Nardostachys jatamansi) & Khulanjan (Alpinia galangal) in the Management of Tashhamul kabit (Fatty Liver) in a Clinical Study

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Abstract: sumbul-ut-teeb (Nardostachys jatamansi) & khulanjan (Alpinia galanga) are extensively used drugs by our ancient Unani physicians for the management of Gastro hepatic diseases due to cold temperament such as gastritis, metabolic disorders, tashhamul kabit (fatty liver)

Aim of the study: Clinical evaluation of unani compound formulation of sumbul-ut-teeb (nardostachys jatamansi) & khulanjan (alpinia galanga) in the management of tashhamul kabit (fatty liver).

INTRODUCTION^{1,2}

Fatty Liver is also known as fatty liver disease/Hepatic steatosis. It is a reversible condition where in large vacuoles of triglyceride fat accumulate in liver cells (Hepatocytes) through the process of steatosis (Abnormal retention of lipid within a cell).





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Fatty liver may be literally termed as Tashhamul kabit. It is an arabic word Tashham means (fat)and kabit means (Liver). In Unani concept liver is considered the seat of all metabolic activities in the body mainly the synthesis of Akhlaat. Even though there is no direct description of fatty liver disease in Unani classical texts but unani scholars from ancient time were well aware about the role and the disease of liver and its normal mizaj(temperament)and it is documented as garm o tar(hot and moist). In fatty liver there is usually non painful enlargement of liver with associated symptoms of indigestion, flatulence, dyspepsia etc. These descriptions of fatty liver match with definitions and descriptions of Warm-e-Kabit Balghami. Unani Scholars have mentioned about Warm-e-Kabit Balghami in one or other form in their treatise, they have described it as non painful enlargement of liver due to accumulation of Phelgm (Balgham) and Mizaj (temperament) of Balgham (Phelgm) is cold & wet, similarly Unani Scholars described the temperament of Fat (Shahm) as cold & wet. Accumulation of Phelgm (Balgham) does not cause any pain or any other sign of inflammation in liver but its accumulation increases the size of liver and Unani Physicians described the morphology of liver as enlarged and loose, which is the character of Phlegm (Balgham) and also the accumulation of Phelgm in body results in indigestion, flatulence, anorexia etc. The major causes of fatty liver i.e. Obesity, Hyperlipidemia etc, all are described in unani literature as the main causes of accumulation of Phlegm (Balgham) in body. It has been mentioned in unani text that fat or shahm is a derived form of phlegm (balgham).

According to unani scholars fatty liver comes under suae mizaj haar (Impaired hot temperament) and suae mizaj barid(impaired cold temperament).





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Thus suae mizaj haar kavid can be correlated to the present concept of AFLD and suae mizaj barid kavid to NAFLD.

According to Unani concept causes of suae mizaj barid(NAFLD) are¹:

1. In take of excess food and drink
2. Intake of cold food,drinks
3. Undue retention of morbid matter(Fuzlaat).
4. Obstruction from the accumulation of morbid matter(Fuzla)
5. Occupation which produces cold.
6. Excessive worry,joy,pleasure,fear,and anxiety.

Due to the causes mentioned above the normal mizaj of Liver is transformed to barid(Cold),thus allowing deposition of fat causing zof e Kavid(Hepatic Impairment) Normally the mizaj of liver is Garm o khusk(Hot & dry) according to Unani concept in Fatty Liver the mizaj of liver changes from hot to cold(Haar to barid).On the basis of Unani concept the line of treatment is in llaj bil zid, so Sumbul -ut-teeb and Khulanjan are having (Garm o khusk) temperament,Further both these drugs are Hepato protective(Maqavi e jigar) and Hypo lipidemic properties Mentioned in various Journals and classical Unani literatures.

Further according to **Hk Md Ajmal Khan**³ principal of choosing drug for liver diseases should have these properties like

(Talqui) bitterness,(Khushbu)aromatic and should be(Khabiz) astringent .

. According to unani concept Shham(fat) belongs to Aza e rutba(Wet organ)hence it is very soft and white in colour.





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According to **Sheik Bu Ali Sina**⁴ Shham is haar(Hot) because it acts as a vehicle for maintaining body temperature .Hence hot temperament people not having excessive fats because it gets dissolve due to heat on other hand barid mizaj (cold temperament)people due to lack of heat fats get accumulated.

As per **Raban Tibiri and Ali bin Abbas Majoosi**⁵ yellow bile which has the temperament of Garm o khusk(hot and dry) helps in digestion of food particularly for fat metabolism yellow bile is very essential and also to some extent helpful in digestion of proteins and carbohydrates.

Causative factors of NAFLD⁶:

1. Metabolic syndrome like diabetes,hypertension,obesity,& dyslipidemia
2. Genetic inheritance
3. Malnutrition (parental nutrition, severe weight loss, gastric bypass etc.
4. Drug and toxins: Diltiazem, highly active anti retroviral therapy, glucocorticoids etc
5. Others: Inflammatory bowel disease, HIV, Hepatitis C

Sign and symptoms⁶:

1. Fatigue
2. Malaise
3. Dull ache right upper quadrant with abdominal discomfort.
4. Indigestion
5. Anorexia
6. Dyspepsia
7. Vomiting





Clinical features¹

Feeling of uncomfortable heat.

Excessive thirst.

Bitter taste.

Anorexia.

Vomiting.

Diarrhoea.

Itching and heaviness at right hypochondrium.

Inability to sleep on the right side

Management¹:

Diet plays an important role in the management of fatty liver as erratic dietary habit is one of the important causative factors. Both starvation and excessive food intake produces Su'mizaj barid, hence balanced food intake is recommended. The patient should avoid oily, fatty, spicy, fried and indigestible food. Light and easily digestible diet should be prescribed for liver patients such as small bird's soup, chicken soup, pulses, sagodana kheer (Metroxylan sago gruel), Daliya (wheat gruel), Kishneez (Coriandrum sativum), Pudina (Mentha piperita) etc





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Unani Formulation Of Sumbul ut teeb & Khulanjan:

Botanical synonyms of Sumbul ut teeb⁷

Nardostachys grandiflora DC

Nardostachys jatamansi DC

Vernicular Names:(Mutaradif Naam)^{7,8,10,11,12}

Latin: Nardostachys jatamansi DC

Arabic: Sumbul-teeb, sumbul-lul-Asafeer

Unani: Nardin, Izarmaroos, Lola natees, Bola keetus, Bares

Persian: Sumbul-utteeb

Urdu: Balchar

English: Muskroot, Indian Spikenard, Spikenard

Hindi: Balchar, Balchir, Jatamansi

Bengali: Jatamansi

Telugu: Jatamansi, Jatamanji, Jatamsi

Gujrati: Baalchad, Kalichad, Jatamansi

Tamil: jatamanshi, Jatamanji

Kannada: Jatamanshi, Jatamansi

Malayali: Jatamanshi, Jatamamshi, Jatamanchi

Oriya: Jatamansi

Punjabi: Billilotan, Balchar, Chharguddi.

Kashmiri: butijatt, Kuklipot

Nepal: Haswa, naswa, jatamasgi

General Description:(Mahiyath)⁹





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Sumbul ut teeb is also known as sumbul Asafeer because the Gauraiya(Sparrow) gets excited on seeing sumbul ut teeb to built its nest.

Due to its thick roots and many hairs it has various therapeutic action on body. It is a natural nervine tonic and a memory enhancer, which has calming, peaceful and the name Jatamansi. It consists of two words:Jata means dread locks and manasi indicates towards human.It is wonderful medicinal herbs used peration. It spikenerd rhizomes can be crushed and distilled into an intensely aromatic amber color essential oil which is very thick in consistency. This oil is used as a perfume, incense, a sendative and an herbal medicine said to fight insomnia, birth difficulties and other minor ailments.

relaxation features. it is used for natural support for mental disorders like schizophrenia and epilepsy, stress, anxiety, and depression and induces healthy sleep. healthy sleep, mental- without any addiction and depression effect.

Part use: Rhizomes

Mizaj(Temperament)⁹:

Rhizomes: Garam¹(hot)¹ Khusk²(dry)²

Main Action¹¹:

Rhizomes: Maqavi e Kabid o dimagh (Hepato & brain tonic)

Afaal(Action)^{10,11,12,14,15,16,17}

- 1.Maqavi e aza e rayeesa (General tonic of vital organs)
- 2.Maqavi e Jigar (Hepato protective)
- 3.Muhallil (Resolvent)
- 4.Mufattah (De obstructant)





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- 5. Maqavi e meda (Stomachich)
- 6. Maqavi e bah (aphrodisiac)
- 7. Kasir e reeh (Carminative)
- 8. Mudir e haiz (Emmenagogue)
- 9. Mutib e dehen (Oral refreshment).

Therapeutic uses¹⁰:

1. It is mostly used in Balghami Amraz, warm e jigar(Hepatitis), warm e meda (gastritis), warm e rehem(Metritis), warm e masana(Cystitis)both internally and externally.
2. Due to properties of Jali(Cleanser) it is used to enhance the facial and skin complexion it is used making fairness cream and facial powder.
3. It stops excessive sweating and bad smelling in the body and hence it is used making dusting powder .
4. It is also used for arresting Halitosis(bad breath) .

According to Hkm Md Kabeeruddein¹¹

Main function of N.jatamansi is (maqavi e kavid o dimagh)Liver and Brain tonic.

According to Hk Jalinoos¹² it has more khabiz Johar(Astringent element)then Haar johar(Hot element).Hence the composition of these elements it is very useful in the treatment of liver and stomach diseases both external and internal uses.It also useful in irritation of stomach .Its dries of the abnormal excessive accumulation of fluid in the stomach intestine ,lungs and head .Indian origin Sumbul is more potent than others





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. **According to Hk Ishaq bin Imran**¹² Sumbul is very effective mufattah e sudda e dimagh(de obstruent of brain),it increase the intelligence and give strength to stomach and liver.It provides heat to liver and stomach and all vital organs.It relieves dyspnoea.

According to some ancient unani scholars¹² sumbul is very effective in Ascities and arrest diarrhoea and it increases (quwat e masika) retention power of whole body.It arrest phlegmatic vomiting.It resolves the gases produced in the stomach.

All types of Sumbul is effective in barid khafkan(Cold palpitation)¹⁴ and weakness of heart and diuretic.since it is diuretic useful in all types of stones.

Its Joshanda(decoction) sitz bath (Abzun) is very useful in uterine colic,renal colic ,amenorrhoea.It is very useful in excessive dysfunction uterine bleeding by using in the form of vaginal pessary(Humul). It is useful in shedding of bawaseeri massae(piles) by using it internally and externally.

Muzir(side effect)^{10,11} Gurdae ke liyae (for kidneys)

Musleh (Corrective)¹⁰ Roghan e gul

Badal(substitute)¹⁰ Izkhar makki

Miqdar e khurak(Dosage)^{10,11} 3-5gms

Compound formulations^{10,11,,17}

1. Majoon e dabidul ward
2. Dawa ul misk motadil
3. Jawarish e jalinoos
4. Hab e ayarij
5. Anushdaroo





6. Khameera e abresham hk arshad wala

7. Laboob e kabeer

8. Mufarraah e yaquti..

Botanical synonyms Of Khulanjan¹⁹

Amomum galangal,

Alpinia viridiflora,

Alpinia calcarata Rose.

Maranta galangal,

Languas galangal,

Languas vulgarel .

Alpinia galangal.

Vernicular name (Mutaradif Naam)⁸

Latin: Alpinia galangal

Unani: Khusrodaru

Arabic: Kholinjan kabeer

Ayurvedic: Kulanjana, Sthulagranthi, Sugandhaa, Uragandhaa,
, Malaya vachaa, Mahaabhari vachaa.

Urdu: Khulanjan, pan ki jar

English: Greater galangal

Hindi: Barakolinjan, Bara Kulanjan, Kulanjan, Kulinjan





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Bengali: Barakalijan,Kulanjan,BaraKulanjan,Kulinjan

Telugu: pedda dhumparashtrokamu,Dumparashtrakamu,Kachoramu.

Gujrati: kulinjan

Tamil: Anandam, Arrati, Arduban, kandanaguliyam
ormarundu,Perrarattai,sattiradji,sugandam,Tittiram,Tumbarattag
m

Kannada: Dumbarasme

Malayali: Arattha,perasatta

Marathi: Koshtkulayan

Parts used: Rhizomes.

Mizaj(Temperament):

Rhizomes: Garm²o Khusk²(Hot² & Dry²)

Main Action: **According to Ibn e Betar¹²**

Rhizomes: Highly digestive & useful in impaired gastro hepato
cold temperament .

Afaal(Actions)¹¹

1. Maqawi e meda o jigar (Tonic for liver & stomach)
2. Kasir e reeh (Carminative)
3. Mudir e luab e dahan (sailogogue)
4. Dafa e Amraz e balghami & saudavi (AntiPhlegmatic & black Bile)
5. Maqawi e Asaab (Nervine tonic)
6. Mufarrah o Maqawi e qalb (Exhilarant & Cardio tonic)





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7. Maqawi e Bah (Aphrodisiac)

8. Munfis e Balgham (Expectorant)

Therapeutic Uses: According to HK Md Kabeeruddein¹¹

1. Khulanjaan is used the weakness of stomach,liver & phlegmatic diseases.
2. It is useful in bakhrul fam(Halitosis) by chewing
3. It is useful in Laqunat(stammering) by applying the khulanjaan powder over the tongue.
4. It is used in surfa(Cough),Zeequn nafas(Asthma) and hoarsness of voice.
5. It is useful in phlegmatic pain and particularly cold renal pain,frequency of urine
- 6..In sexual weakness it is used in the form of powder and jams with other drugs. 7.Since it is carmanative it is useful in dard e shikam(abdominal pain)qulanj e reehi(gastric colic)
- 8.As a jaali (Cleanser) it is useful to remove blemishes by using as a tilaa(liniment).

According to Ibn e Betar¹² Khulanjan is Mulattif(Demulcent),Muhallil(Anti inflammatory)and Mufarraah(Refrigerant). It is useful in Balghami and Saudavi amraz (Phlegmatic & black bile diseases) sartan(Cancer),Scrofula,Barid auram(Cold inflammation)barid suda(Cold head ache)(phlegmatic epilepsy),thakaan (tiredness),Istirkha e asaab (nervous dystrophy) Barid meda o jigar(coldness of stomach and liver)it produces heat and it gives strengthen for meda jigar and





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qulb(stomach,liver,heart) It is useful in barid darde gurdaa and khulinj e reehi (Cold renal colic and gastric colic).

According to **Zakriya Razi**¹⁴Khulanjan is kasir e reeh(carmanative) and useful in khulinj e reehi(gastric colic), increased quwat e bah(Aphrodisac) and also useful in the coldness of uterus and kidneys. According to unani experts it gives strength to internal visceras and it arrest polyurea.

Muzir(Side effect)¹¹

Habis e bol (Retention of urine)

Musleh(Corrective)^{11,16}

Kateera, Sandal, Tabasheer and aneesoon.

Badal(Substitute)¹¹

Darchini

Miqdar-e-khurak(dosage)¹¹
Compound formulations^{11,16,17}

Rhizomes: 3-5gms

1. Hab e Jadwar
2. Halwa e saalub
3. Jawarish e jalinoos
4. Laooq e surfa
5. Laboob e sagheer o kabeer
6. Majoon e saalub





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7. Majoon e seer ulvi khani

8. Mufarrah e Motadil

Active chemical constituents of Sumbul ut teeb & Khulanjan^{13,18,20}

Further this Unani compound formulation contains chemical constituents ie phytosterols, Flavanoids, Terpenes, phenols, Galangin, Valerone, Jatamansic acid coumarins, sesquiterpenes, sterol saponin, phenolic compounds, 1'-Acetoxychavicol acetate, Mucilage, Tannins and steroids which shows antioxidant antiobesity, and antihyperlipidemic antiadipogenic, antifeedant, effects.

Discussion:

Based on this chemical constituents the patients felt reduction in their body weight and abdominal girth making them excited to be more active than before.

According to Unani scholars both drugs have the properties of Maqawi e meda o jigar (Stomachic & Hepato protective), Kasir e Reeh (carmanative) and also possess chemical constituents like mucilage, flavanoids, and phenolic compounds exhibit stomachic and hepatoprotective effects. Based on this in clinical study patient appetite improved, Indigestion rectified, belching also profoundly reduced and fatigue vanished. Hence patient Felt good quality of life and interested in their activities increased. This compound formulation of drug Sumbul ut teeb & Khulanjan has proven harmless and no side effect was noted in the clinical trials of Tashhamul kabit (Fatty Liver).





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Hence the present clinical study of unani Compound formulation of sumbul ut teeb and Khulanjan is effective in the management of fatty liver along with more window open for further research in various diseases to serve the humanity to lead a good quality of healthy life.

Conclusion:

The compound formulation of Sumbul ut teeb & Khulanjan has been proven harmless & no side effects was found in this clinical study of Tashhamul Kabid(Fatty Liver).Hence this study concludes that this formulation of Unani drugs contain chemical constituent like Coumarin sesquiterpenes,sterols,1'-Acetoxychavicol acetate and phytosterol Shows antiobesity, antifeedant, anti adipogenic, and antilipidemic effect. So this Compound Unani formulation of Sumbul ut teeb & Khulanjan is more effective & safe in the management of Tashhamul Kabid (Fatty Liver).

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