

Herbal management for loss of appetite -A clinical study

ABSTRACT

Aim and Objectives: Loss of appetite (LOA) impacts individual well-being and quality of life. It can contribute to weight loss and nutritional deficiencies, and associated poor healthcare outcomes, including increased mortality. This study presents the efficacy and safety of Unani pharmacopeia formulation. *Habb-e-Tursh Mushtahi* in loss of appetite (Anorexia)

Comment [H1]: Aims and Objectives

Study Design: Open-labelled, single arm, clinical trial.

Materials and Methods: The study was conducted on 100 patients having the complaint of loss of appetite; Patients of either sex in the age group of 18 to 65 years and decreased appetite with SNAC ≤ 14 were included in the study. The treatment was given for 2 weeks and safety assessment was done before and after end of treatment. P-value 0.05 were considered significant.

Comment [H2]: Single digit should be in words like two

Results: Females were almost double than men who were suffered with the disease. The considered parameters show a good response $p < 0.05$ of the intervention of unani pharmacopeia in both genders. In case of safety parameters, no significance $p > 0.05$ has been seen for pathological and biochemical investigations.

Comment [H3]: Unani

Conclusion: The management for the loss of appetite can be easily treated with the unani drug which is effective for the rapid relief without any side effect.

Background:

Our existence depends on the ability to obtain food for immediate metabolic needs and to store excess energy in the form of fat to meet metabolic demands during fasting. Eating behaviour is stimulated by hunger, craving and hedonic sensations and controlled by homeostatic processes. Appetite is the desire to eat food, sometimes due to hunger. Appealing foods can stimulate appetite even when hunger is absent. Appetite exists in all higher life-forms, and serves to regulate adequate energy intake to maintain metabolic needs. It is regulated by close interplay between the digestive tract, adipose tissue and the brain^{1,2,3}.

Loss of appetite is described in unani system of medicine as *Zu'f-iIshtiha*, *Nuqṣān al-Shahwa* *Du'f al-Ishtihā Nuqṣān al-Shahwa*, / *Qilla al-Shahwa* in which desire for food i.e. appetite decreases. *Shahwat* is a Arabic name meaning appetite and *Zu'f-iIshtiha* means loss of appetite. It is caused by excessive cold morbid temperament, accumulation of bilious humour/salty humour/viscous phlegm/putrid humour, decrease catabolism and hepatic

Comment [H4]: Unani

Comment [H5]: All terms should be according to WHO international standard terminologies on Unani medicine like *Du'f al-Ishtihā'*, *Qillat-i-Ishtihā'*

Comment [H6]: repetition

Comment [H7]: Arabic word should be better

Comment [H8]: *Du'f al-Ishtihā'*

debility. It is characterized by decrease desire of food. There may be burnt belching, nausea, vomiting, abdominal distension etc associated to it.^{5,6,7,8,9} Avicenna and his followers believed that the causes of *botlan-e-shahvat* (anorexia) and *noghsan-e-shahvat* (dysorexia) are the same. Avicenna and other sages believed that in time of hunger, pancreas secretes *sodā* (black bile) on the cardia and it causes a burning sensation and subsequently, hunger. Disturbing each of these processes by internal or external disturbers leads to anorexia or dysorexia. *Arzānī Muḥammad Akbar* in *Mizan-al-Tib* remarked 7 causes for anorexia, :Simple warm or wet dystemperament in cardia., Accumulation of morbid humours in the stomach., Fullness of the body organs from crude phlegm which may lead to reduction of the organs' food demand., Thickening of the skin and blockages of the pores which may lead to reduction of sweating and accumulation of morbid matters., Liver failure and mesenteric vessel blockage., Blockage of aperture between pancreas and cardia. Scholars of *TPM* believed that there is an aperture between cardia of stomach and *Tahāl* (the spleen and pancreas). There is no real aperture between the spleen and stomach; however, exocrine pancreatic hormones affect GI tract and contribute to digestion. It is close to function of *sodā*, secreted by *Tahāl*, which stimulates cardia of stomach as an orexigenic agent. In this regard, it seems that functions of *Tahāl*, in TPM, are divided into two parts: purification of blood which is conducted by the spleen and secretion of *sodā* which is performed by the pancreas. Impairing the sensitivity of cardia to pouring of the *sodā* from the pancreas on the cardia.^{10,11,12} According to traditional views, habits (lifestyle), mental conditions such as depression and grief, spiritual diseases (neuro – psychological) and gastrointestinal worms are the other causes of reducing appetite. According to the findings of the modern medicine, hunger sense is associated with several physiological effects, such as rhythmic stomach contractions which give the person a search for enough food. Appetite is a desire to eat and it helps in choosing a good quality food. If the demand for food is successful, it will be satiated; in addition to environmental and cultural factors, the physiological factors affecting specific centres in the brain are effective in controlling appetite..

Study rationale: Decreased appetite plays an important role in the development of under nutrition and is therefore a significant clinical problem. Global eating disorder prevalence increased from 3.4% to 7.8% between 2000 and 2018. American journal of clinical nutrition The prevalence of mild to severe anorexia in India has been reported to be as high as 93% in patients with severe illness. The risk of anorexia was found to be 1.5 times higher in patients with a past history of any disease. Anorexia can affect people of every gender

Comment [H9]: Should be according to WHO international standard terminologies on Unani medicine

Comment [H10]: Should be according to WHO international standard terminologies on Unani medicine

Comment [H11]: Should be according to WHO international standard terminologies on Unani medicine like Sawdā

Comment [H12]: Write proper name

Comment [H13]: Full form?

Comment [H14]: Should be according to WHO international standard terminologies on Unani medicine like *Tihāl*

Comment [H15]: Should be according to WHO international standard terminologies on Unani medicine like Sawdā

Comment [H16]: Should be according to WHO international standard terminologies on Unani medicine like *Tihāl*

Comment [H17]: Should be according to WHO international standard terminologies on Unani medicine like *Tihāl*

Comment [H18]: Should be according to WHO international standard terminologies on Unani medicine

Comment [H19]: Should be according to WHO international standard terminologies on Unani medicine

Comment [H20]: Full stop

Comment [H21]: Delete

Comment [H22]: ?

Comment [H23]: ?

identity, race, and socioeconomic status. There are a variety of factors that can contribute to the onset of anorexia that can put some populations and people at a higher risk for developing the eating disorder. Early management of decreased appetite may prevent or delay under nutrition with a series of components

Comment [H24]: ?

Comment [H25]: Full stop

Traditional and complementary medicine has always been considered for the selection of new treatments. There are several medicinal herbs in traditional medicine, the benefits and effects of which have not yet been investigated on scientific parameters. Considering that traditional medicine is one of the richest medical treasure in the world and it has deep roots in the vast civilization and considering the diversity and distribution of herbal medicines in India, we began to study appetite stimulant herbal drugs. We hope to introduce a new method for effective and low-cost control of appetite.

The use of appetite stimulating medications appears to be better treatment option for alleviating anorexia that may help patients enhance their appetite and gain weight, thereby improving their quality of life. The classical pharmacopeia formulations are in use since long but these need to be validated on scientific parameters for its safety and efficacy. Habb-e-tursh mushtahi is one such important Unani pharmacopoeia formulation prescribed frequently by Unani physicians to relieve anorexia and decreased appetite.

Comment [H26]: Correct grammar

Comment [H27]: Habb-e- Tursh Mushtahi

Methodology: An open labelled clinical study was conducted at RRIUM Srinagar after getting the ethical approval. Patients of either sex in the age group of 18 to 65 years and decreased appetite with SNAC ≤ 14 were included in the study. Patients having anorexia nervosa, underlying disorder, known case of hepatic, renal and cardiac ailment were excluded from study. The patients were clinically assessed at every 7th day for 2 weeks

Comment [H28]: Mention ethical approval certificate number or reference number

Comment [H29]: ?

Drug intervention: Habb-e-Tursh Mushtahi is a solid preparation (pill) made with the ingredients in the formulation

Comment [H30]: Reference?

Comment [H31]: Mention the method of preparation if self prepared or mention company, batch etc if you have purchased from market

Comment [H32]: Please mention identification certificate of each ingredients and place of procurement

Formulation composition:

1. Zanjabeel (*Zingiber officinale* Rosc.)

3. Satt-e-Leemu QS

Comment [H33]: Should be in bracket properly like (*Zingiber officinale* Rosc.)

4. Namak-e-Siyah (Black Salt,)

Comment [H34]: Correct the serial number

5. Namak sang (rock salt)

Comment [H35]: English

6. Qaranfal (clove)

Comment [H36]: Should be in bracket properly

7. Filfil Daraaz (piper longum)

Comment [H37]: Should be in bracket properly

8. Kibreer Maghsool

Comment [H38]: Should be in bracket properly

9. Heel Khurd (*Elettaria cardamomum*)

Comment [H39]: Should be in bracket properly

Comment [H40]: English ?

Comment [H41]: Should be in bracket properly

Dose Two pills (5gms) BD before meals two times a day

Mode of administration The drug is taken orally with water before meals

Assessment of efficacy and safety

The results were assessed on the basis of variables considered in the appetite for which the SNAQ was applied. The patients were asked to complete the SNAQ (clinical tool for assessment of appetite). The validation study of questionnaire indicated that due to its short nature and reliability, the SNAQ is recommended for clinical use (Wilson et al 2005), It is a 4 item single domain questionnaire. Responses were scored by using a 5 point (A TO E), verbally labelled likert type scale. The total SNAQ score is the sum of scores on the 4 items, with lower score indicating deterioration in appetite. The SNAQ score may range from 4(worst) to 20(best). A SNAQ Score ≤ 14 may identify persons with anorexia at significant risk of weight loss within 6 months. The safety of the drug was assessed by recording adverse events (if any) and relevant pathological and biochemical investigations were carried out at baseline and after 14 days of treatment and the results obtained were compared.

Statistical Analysis: The coded data were filled in excel sheet in each follow up of the patients. At the end of the sample of 100 cases, the analysis of the data has been done with the SPSS v29. The categorical data is presented in the frequencies and percentage. A critical area of distribution were two sided and p value < 0.05 were considered as significant. Paired t-test was used to calculate p-value for continuous data and contiguous chi were used for categorical data.

Results:

Table-1 presents the characteristics of the subjects

Parameter	Classification	Male	Female, n,
		n, (%)	n, (%)
Temperament	Damvi	10 (28.6)	6(9.2)
	Balghami	17(48.6)	35(53.8)
	Safarvi	6(17.1)	19(29.2)
	Saudawi	2(5.7)	5(7.7)
BMI	Under weight	8(22.9)	13(20.0)
	Normal	23(65.7)	48(73.8)

Comment [H42]: Dose:

Comment [H43]: ?

Comment [H44]: ? Repetition

Comment [H45]: Mode of Administration:

Comment [H46]: Mention full form

Comment [H47]: Correct as journal guide line

Comment [H48]: Five

Comment [H49]: ?

Comment [H50]: Four

Comment [H51]: Correct the spelling

Comment [H52]: Four

Comment [H53]: Six

Comment [H54]: ?

Comment [H55]: Table 1:

Comment [H56]: ?

Comment [H57]: ??

Comment [H58]: ???

Comment [H59]: Should be according to WHO international standard terminologies on Unani medicine

	Over weight	4(11.4)	4(6.2)
Age group	< 28	18(51.4)	35(53.8)
	29 - 38	7(20.)	13(20.0)
	39 - 48	3(8.6)	8(12.3)
	49 - 58	6(17.1)	9(13.8)
	>58	1(2.9)	0.0(0.0)
Nutrition status	Good	9(25.7)	3(4.6)
	Average	25(71.4)	58(89.2)
	Poor	1(2.9)	4(6.2)
Built	Average	23(65.7)	37(56.9)
	Short	4(11.4)	6(9.2)
	Tall	4(11.4)	4(6.2)
	Fatty	1(2.9)	1(1.5)
	Muscular	1(2.9)	1(1.5)
	Thin	2(5.7)	16(24.6)

In this study 100 cases were recruited out of which 35 were male and 65 female. As per the inclusion criteria of the study 18 years of age at minimum and 60 years maximum cases were considered in the present study. The mean age for the males was reported 35.83 with 11.64 SD and in females 29.1 with 10.8 SD. Both male and female group were classified in considered parameters to know the involvement in disordered eating behaviour and dieting behaviour to lose weight. In table 1 the number and percentage of the cases in each group is present. Balghami (Phlegmatic) cases in both groups were more 48.6% in males and 53.8% in females as far as temperament is concerned followed by safarvi (Bilious) where female patients are more than males (29.2 %). Also 28.6% male cases were Damvi (Sanguineous). Maximum numbers of patients were of normal weight 65.7% males and 73.8 females followed by underweight which were 22.9% males and 20% females. It has been seen that less than 28 years of age were more prone with the disease 51.4 males and 53.8 females and as age increases less number of cases have been reported. The phenotype of the studied cases where it has been reported the general appearance of the good number of cases in both males 45.7% and females 60% were disturbed at base line due to sleep disturbance. 20% males and 10 % females were not feeling well at base line and after intervention of the unani regime, the drug shows the significant results at 1st follow-up and complete cure of maximum number of

Comment [H60]: Should be according to WHO international standard terminologies on Unani medicine

Comment [H61]: Should be according to WHO international standard terminologies on Unani medicine

Comment [H62]: Should be according to WHO international standard terminologies on Unani medicine

Comment [H63]: Unani

cases. In 5.7% males and 10.8% females, the drug did not show any benefit. In this study the cases who are taken average nutrition's were more prone (male 71.4% and female 89.2 %) to the disease than the persons who take adequate nutrition

Comment [H64]: ???

Comment [H65]: Full stop

Table 2 presents general status of known subjects

Comment [H66]: Table 2:

General information	Indicators	Male	Female	Total	p - value
		n _i (%)	n _j (%)		
Duration	1-month	17(32)	36(68)	53	0.296
	2 month	11(31)	24(69)	35	
	3-month	5(63)	3(37)	8	
	4-month	2(50)	2(50)	4	
Past History of any disease	Yes	5(38)	8(62)	13	0.503
	No	30(34)	57(66)	87	
Marital Status	Married	26(49)	27(51)	53	0.002
	Unmarried	9(19)	38(81)	47	
Diet	Non Veg	2(33.5)	4(66.5)	6	0.650
	Mixed	33(35)	61(65)	94	
Smoking	Smoker	10(91)	1(9)	11	0.001
	Non smoker	25(28)	64(72)	89	
Past Medication	Allopathic	33(35)	62(65)	95	0.576
	Herbal	2(40)	3(60)	5	

Comment [H67]: ?

Comment [H68]: ?

As per the literature the reasons of the symptom anorexia have been reported the most prevalent condition triggering malnutrition, drastic weight loss and serious health issues. In our study the chronicity of the patients has not been seen. The maximum number of cases as far as duration is concerned were upto 1-month, 32% males and 68% females followed by 2 month 31% males and 69 females. In socio-economic category middle class has more number of cases 31% males and 69% females followed by lower class. There was no statistical significance in both the categories. Female cases 51 % married and 81% unmarried are

Comment [H69]: One month

Comment [H70]: two

suffering more with anorexia than male cases and is very significant $p = 0.002$. Since the study has been conducted in Kashmir valley where majority of the population are habitual to take mixed diet and the same has been reported i.e 94% population are taking mixed diet. A good number of patients reported to have past medication particularly allopathic.

Table3 : shows the results of main parameters that were statistically significant.

	Male- n=35							Female- n=65						
	Mean		Std. Deviation	95%CI of the difference		stati c	p valu e	Mean		Std. Deviat ion	95%CI of the difference		stati c	p valu e
				Lower	Upper						Lower	Upper		
BMI	*B	21.19	4.21	-2.42	0.17	-	0.036	*B	20.99	3.91	-2.01	0.02	-	0.024
	**AT	22.31	2.14					**AT	21.98	3.20				
SN AQ	*B	4.97	0.57	-7.44	-4.74	-	0.015	*B	5.49	1.34	-5.65	-4.10	-	0.0142
	**AT	11.06	3.81					**AT	10.37	3.12				

*BT = before intervention of unani regime

**AT = after intervention of unani regime

Comment [H71]: Unani

Comment [H72]: Unani

Table 4: Pathological assessment

Pathological assessment		Mean	Std. Deviation	Lower		Upper	p-value
				Lower	Upper		
Hb (gm/dL)	Before intervention	11.269	1.3101	-0.1414	0.2808	0.655	0.514
	After intervention	11.199	1.3163				
TLC (/mm ³)	Before intervention	6825.25	1568.916	-195.902	500.952	0.869	0.387
	After intervention	6672.73	1398.090				
N	Before intervention	60.79	6.060	-0.384	2.606	1.475	0.143
	After intervention	59.68	5.566				
L	Before intervention	36.33	6.172	-2.733	0.386	-1.493	0.139
	After intervention	37.50	5.757				
E	Before intervention	1.45	0.788	-0.145	0.247	0.517	0.607
	After intervention	1.40	0.743				
M	Before intervention	1.30	0.933	-0.262	0.262	0.000	1.000
	After intervention	1.30	0.976				
B	Before intervention	0.01	0.101	-0.045	0.025	-0.575	0.566
	After intervention	0.02	0.142				

	intervention						
1st Hr	Before intervention	15.50	15.632	-2.037	3.690	0.573	0.568
	After intervention	14.67	13.097				
2nd Hr	Before intervention	26.60	19.810	-2.649	4.466	0.507	0.614
	After intervention	25.69	17.539				

Table 5: Biochemical investigations

Biochemical investigations	Sample collection	Mean	Std. Deviation	95% CI of the mean difference		t	p
				Lower	Upper		
S. Bilirubin (mg/dL) Total	Before intervention	0.708	0.1859	-0.0639	0.0149	-1.234	0.220
	After intervention	0.733	0.1685				
SGOT (U/L)	Before intervention	26.085	9.2831	-1.5418	2.0907	0.300	0.765
	After intervention	25.810	6.9553				
SGPT (U/L)	Before intervention	25.357	11.5123	-1.4079	3.4181	0.827	0.410
	After intervention	24.352	7.6615				
S. Alkaline Phosphatase (U/L)	Before intervention	72.112	19.4412	-5.9091	3.9254	-0.400	0.690
	After intervention	73.104	20.9138				

	intervention						
S. Creatinine (mg/dL)	Before intervention	0.776	0.1390	-0.0505	0.0134	-1.154	0.251
	After intervention	0.795	0.1236				
Blood Urea (mg/dL)	Before intervention	23.003	9.1264	-2.0405	1.7956	-0.127	0.899
	After intervention	23.126	5.5758				
Uric Acid (mg/dL)	Before intervention	4.676	1.1054	-0.2447	0.2051	-0.175	0.862
	After intervention	4.696	1.0226				

Necessity, acceptability, feasibility, safety, fidelity, efficacy, effectiveness and cost-effectiveness are the prime focus of Unani regime. To ensure the safety of the cases that has been included in the study, we carry out the possible biochemical and pathological laboratory test of all the subjects included in the study (Table 4, 5). All the parameters shown in above tables are in normal range before and after of the drug intervention.

DISCUSSION: Loss of appetite (LOA) impacts individual well-being and quality of life. Lack of appetite (LOA) and loss of well-being is a major concern for patients and their families. In our study 100 patients coming with the complaint of loss of appetite were enrolled in study. Female outnumbered the male with a ratio of 1: 1.9 which co relates with maximum studies showing, loss of appetite is more common in females than males^{13,14,15}. The socioeconomic data of this research correlates with the national literature demonstrating the female preponderance. Gender differences in many appetite-related areas have been previously highlighted, which may give insight about reasons for the higher satiating effect in women than in men. According to these previous studies, these gender differences may be partly due to physiological regulation of appetite through sex hormones. More specifically, female sex hormones, mainly oestrogens, influence central and peripheral signals from some hormones implicated in feedback controls of eating, including ghrelin, cholecystokinin, insulin, and leptin and may mediate the estrogenic inhibition of eating

Comment [H73]: Scientifically better to say this study instead of our study

Comment [H74]: ???

during the consumption of a meal as highlighted in previous human studies^{16,17,18,19} In addition, Cornier et al. observed that women have increased neuronal activation in response to food cues and have a greater attention, cognitive processing, and inhibitory response to food cues than men. These differences in brain activation in response to food stimuli may then consequently produce gender specific appetite response

Comment [H75]: Full stop

Comment [H76]: According to journal guide line

In our study less than 28years age group was more affected by loss of appetite with 53.8% females and 51% males. It showed that teens were more affected by the loss of appetite. Loss of appetite in teens isn't uncommon. A teenager undergoes several physical, psychological, and social changes during adolescence that can cause a teenager to lose interest in food. Adolescence brings about several changes in a teen's body, mind, and social life, any one of which could lead to a loss of appetite. Teens can experience stress due to a variety of factors, including but not limited to peer pressure, the strain to keep up academically and athletically, learning impairments, and issues at school, the death or loss of a loved one, parental divorce, or an unfavourable home environment. Teens may experience a loss of appetite due to chronic health illnesses like Crohn's disease, irritable bowel syndrome, asthma, or hormonal conditions like Addison's disease. Some teens may have a loss of appetite due to chronic health conditions such as food allergies, stomach difficulties, food intolerances, or sensitivities. The demographic profile of patients enrolled in another study demonstrated a significantly higher rate of anorexia presence in young adults below the age of 30 yrs (59%), being more common in students, when compared to the patient above 30 yrs of age (41%) also correlates with our study²⁰. Although many other studies does not correlate with our study in which loss of appetite is mostly seen in elders and males, in our study there is a limitation of age group up to 60 years which can add to its non correlation with these studies.^{21,22,23,24} The duration of disease in our study was usually less than 1 month(53%) which excludes the chronicity of the disease.

Comment [H77]: Delete

In our study as far as temperament is concerned, Balghami cases in both groups were more, 48.6% in males and 53.8% in females followed by safarvi where female patients are more than females (29.2 %). Also 28.6% male cases were Damvi, which again coincides with the study²⁰ and As Per the literature loss of appetite occurs with the accumulation of viscid phlegm which inhibits the action of black bile which is necessary for triggering appetite, resulting in decreased appetite, other causes as discussed in the literature are that due to accumulation of balgham, the stomach becomes busy in expelling this phlegm and its intension to get food is diverted leading to loss of appetite^{25,26}. Since the study has been

Comment [H78]: Explain it, there is contradiction

Comment [H79]: Should be according to WHO international standard terminologies on Unani medicine

Comment [H80]: Correct it

Comment [H81]: Correct the spelling

Comment [H82]: Make similar

Comment [H83]: Correct spelling

conducted in Kashmir valley where majority of the population are habitual to take mixed diet and the same has been reported i.e 94% population are taking mixed diet. A good number of patients reported to have past medication particularly allopathic medication like antibiotics, opioids, fluoxetine etc which are responsible for loss of appetite.

In our study the general appearance of the good number of cases in both males 45.7% and females 60% were disturbed at base line due to appetite disturbance but after intervention of the unani regime, the patients looks were healthy and well and shows the significant results at 1st follow-up in maximum number of cases. , in only 15% cases the drug did not show any benefit.

Anyone can manifest anorexia as a loss of appetite or a loss of interest in food, regardless of their sex, age, or weight. This can present as not feeling hungry or lacking the desire to eat.²⁸ A brief period of anorexia usually accompanies almost all sudden (acute) illnesses. Disorders that affect the part of the brain where appetite is regulated can cause anorexia as well. Underlying causes are treated to the extent possible. We introduce unani drug which shows a significant results to increase a person's desire to eat, helps appetite and a flexible meal schedule for symptom relief anorexia.

There are various appetite assessment tools for measuring appetite for example Mini-Nutritional Assessment (MNA), Malnutrition Universal Screening Tool (MUST), Nutritional Risk Screening 2002 (NRS-2002), and Geriatric Nutritional Risk Index (GNRI). While these tools are comprehensive and have been validated in various settings, there remains a need to strike a balance between efficacy and efficiency, especially for resource-intensive tools that require trained assessors or laboratory measurements. The Simplified Nutritional Appetite Questionnaire (SNAQ) is self-administered questionnaires adapted from the Appetite, Hunger and Sensory Perception questionnaire (AHSP), an appetite assessment tool validated among community-dwelling adults in the Netherlands ¹⁰. The shorter four-item SNAQ comprising items to have good reliability, sensitivity and specificity to predict malnutrition in both specialized and non-specialized older adult populations²⁷

The results from this study showed that significantly more patients with less than two months complaint were free of all symptoms after only one week their appetite increases and developed taste of food $P < 0.01$ and the patients who were chronic also got benefited at during the intervention $P < 0.05$). Since the present study was guide lined to assess the SNAQ score which was our primary concern to see any significance by intervening the unani regime and any change in BMI after the Completion of the duration of the treatment. The

Comment [H84]: ?

Comment [H85]: Unani

Comment [H86]: ?

Comment [H87]: Unani

Comment [H88]: Full stop

Comment [H89]: Make non italic

Comment [H90]: Unani

Comment [H91]: Why in capital

result shows significance in both the variables $p < 0.05$ (Table 3). We found an amazing improvement in these items that assess appetite, satiety, taste of food and number of meals per day respectively. The SNAQ was developed as a self-assessment screening tool that is quick and easy to administer without the need for trained assessors or laboratory measurements²⁷. The drug shows equal response in both males and females. . It is worth mentioning that at baseline, the average SNAQ score, as well as the BMI scores were within the class of normal range and after the intervention, they changed to the rank of high normal range. The study demonstrated 1.22 increases in mean score in BMI of the studied cases on an increase of 137 kcal daily energy consumption for 3 weeks duration. The long term use of tested formulation may also contribute to weight gain in patient with anorexia and improved quality of life. A significant increase in SNAQ score was observed in at the end of the study, which was highly notable at post treatment follow up when compared to the baseline score. The result of the present study revealed a modest relationship between the body weight, BMI and SNAQ score. The intervention also helps a good posture of the studied cases and hence developed a healthy confidence level. These results confirm the appetite inducing effect of the tested formulation, which may result in increased energy consumption and weight gain in patients with anorexia. The duration of treatment plays a vital role in the efficacy of herbal therapy. Therapy for at least 2 weeks with appetite-stimulating unani medications such as megestrol, dronabinol, and mirtazapine has shown benefits in patients with anorexia previously³⁰. This observation is consistent with findings in our study where the treatment duration was for two weeks. Considering that there is no fixed duration established during which an appetite-stimulating medication may show efficacy, it is expected that treatment with such medications for at least two weeks or more may be likely to depict benefits in patients with anorexia³. In the outpatient setting, the outcomes could be variable considering diverse factors such as patients' due diligence in taking medications and timing of taking medications, which may in turn affect the weight and appetite of the patient. However, in our study, patients with anorexia were at least 80% compliant with the prescribed appetite-stimulating medication dose and frequency as assessed from patient diaries and self-reported use at follow-up visits, thereby making our findings relevant to an out-patient setting. No significance have been reported for safety parameters before and after the unani intervention $p > 0.05$. There were no adverse effect of the therapy the reference range of common biochemical and pathological tests remain within range during the intervention and post treatment.

Comment [H92]: Full stop

Comment [H93]: Full stop

Comment [H94]: Full stop

Comment [H95]: Unani

Comment [H96]: ?

Comment [H97]: ?

Comment [H98]: ??

Comment [H99]: Unani

Comment [H100]: Full stop

World Health Organization (WHO) has defined herbal medicines as finished labelled medicinal product that contain an active ingredient, aerial, or underground parts of the plant or other plant material or combinations. According to a report of WHO, about 80% of the world population is reported to rely on traditional medicine for their primary health care needs. Herbal products have become an important and indispensable part of public healthcare around the world.³¹ Various surveys on traditional and alternative medicine have highlighted their widespread use.³² However, in order to further widen their forum of acceptance, clinical trials of these herbal products should be encouraged.: *Habb-e-Tursh Mushtahi* is a unani preparation made with the ingredients. *Zanjabeel* (*Zingiberofficinale*Rosc., . *Satt-e-Leemu* ,. *Namak-e-Siyah* Black Salt, *Namak sang* rock salt , *Qaranfal* clove , *Filfil Daraaz* piper longum | *kibreetmaghsooland* *heelkhurd*Elettariacardamomum..All the ingredients have *Hazim* (Digestive), *Mushtahi* (*Appetizer*) functions. Ginger (*Zingiber officinale* Roscoe) is a common and widely used spice. It is rich in various chemical constituents, including phenolic compounds, terpenes, polysaccharides, lipids, organic acids, and raw fibers. . Ginger is one of the incredible herbs that is mostly used as an appetite stimulant. Ginger juice works amazingly well for improving poor appetite.

Kala namak consists primarily of common salt and trace impurities of sodium sulphate, sodium bisulfate, sodium bisulfite, sodium sulfide, iron sulfide and sulphide. Its slight savoury and a highly distinctive smell has appetite stimulating effect. As per Unani system of medicine, the drug *-Qaranfal or LaungTaila* (Clove) is frequently recommended for, Weakness of the Stomach (*Zof-e-Meda*), Hepatitis or Weakness of Liver (*Zof-e-Kabid*). Since ages, Unani physicians used *Filfil Daraz* (Piper longum L.) or long pepper, for enormous therapeutic benefits. Its beneficial actions are (digestive), (stomachic), an (carminative) and appetizer. Literature survey revealed countless important phytoconstituents namely alkaloids such as piperine, volatile oil, esters and resins. These all drugs improve liver function which boost our digestion process and thus makes feel hungry.

Conclusion:

In conclusion the present Unani drug found effective for the rapid relief for loss of appetite. The symptom relief was seen within the seven days of treatment and in chronic cases twenty one days shows major relief. There were no adverse effect reported, hence are safe and effective in both males and females.

Reference

Comment [H101]: ?

Comment [H102]: ?

Comment [H103]: Unani

Comment [H104]: In bracket

Comment [H105]: English

Comment [H106]: in bracket

Comment [H107]: in bracket

Comment [H108]: in bracket

Comment [H109]: in bracket and proper way

Comment [H110]: write properly

Comment [H111]: Should be according to WHO international standard terminologies on Unani medicine

Comment [H112]: should be italic

Comment [H113]: delete

Comment [H114]: write with proper spelling

Comment [H115]: Should be according to WHO international standard terminologies on Unani medicine

Comment [H116]: italic

Comment [H117]: ?

Comment [H118]: Have you included chronic cases? no mention in methodology. Please justify properly

1. Bales CW, Ritchie CS. Sarcopenia, weight loss, and nutritional frailty in the elderly. *Annu Rev Nutr* 2002; 22:309.
2. Bistrrian BR. Nutritional assessment. In: Goldman L, Schafer AI, eds. *Cecil Medicine*. 24th ed. Philadelphia, Pa: Saunders Elsevier; 2011: chap 221.
3. Ganong William F. Central regulation of visceral function. In: *Review of medical physiology*; 23rd edition, USA, McGraw-Hill, 2010; 235-240
4. Malafarina V, Uriz-Otano F, Gil-Guerrero L & Iniesta R (2013) The anorexia of ageing: physiopathology, prevalence, associated comorbidity and mortality. A systematic review. *Maturitas* 74, 293-302.
5. Kabruddin M Mu alaja t harh al-Asba b (rdu Translation), ol 3 Hyderabad: Hikmat Book Depot; 1916: 193-194, 261.
6. T abar AAM Mu alaja t al- uqra t iyya(rdu Translation by CCRUM). Vol 3, New Delhi: CCRUM, Ministry of Health and Family Welfare; 1997: 11-14.
7. Jurjānī I DhakhīraKhawārazmhāhī(rdu translation by Khan HH). Vol 6. New Delhi: IdaraKitab al-Shifa; 2010: 335-338.
8. Ibnīnā Al- ānūn fi l Ṭibb(rdu Translation by Kantoori GH) Vol. I-V Complete set. New Delhi: IdaraKitab al-Shifa; 2014; 3:806-810.
9. Al- amar AM Minha j al-Ila j (GhinaMuna) ew Delhi entralCouncil for Research in Unani Medicine; 2008: 176-178.
10. Nimrouzi M, Daneshfard B, Tafazoli V, Akrami R. Anorexia: Highlights in Traditional Persian medicine and conventional medicine, *Avicenna J Phytomed*, 2018 Jan-Feb; 8(1):
11. Shah-Arzani M-A. *Tib-e-Akbari*. Quom: Jalal-ed-Din press; 2008. [[Google Scholar](#)]
12. ShāhArzānī M. *Mizān al-tibb*. Quom: Ehyay-e-tabiei press; 221 pp. [[Google Scholar](#)]
13. M.-A. Cornier, A. K. Salzberg, D. C. Endly, D. H. Bessesen, and J. R. Tregellas, "Sex-based differences in the behavioral and neuronal responses to food," *Physiology & Behavior*, vol. 99, no. 4, pp. 538–543, 2010.
14. Raben, L. Agerholm-Larsen, A. Flint, J. J. Holst, and A. Astrup, "Meals with similar energy densities but rich in protein, fat, carbohydrate, or alcohol have different effects on energy expenditure and substrate metabolism but not on appetite and energy intake," *The American Journal of Clinical Nutrition*, vol. 77, no. 1, pp. 91–100, 2003.
15. L. Asarian and N. Geary, "Modulation of appetite by gonadal steroid hormones," *Philosophical Transactions of the Royal Society B-Biological Sciences*, vol. 361, pp. 1251–1263, 2006.
16. Anwar N, Ahmed NZ, Begum S, Ansari AP, Viswanathan AJ, Appetite-inducing effect and safety evaluation of Habb-e-Hilteet in patients with Ḍu'f al-Ishtihā (anorexia): An open prospective clinical trial, *Journal of Drug Delivery and Therapeutics*. 2022; 12(6):38-43
17. Pilgrim AL, Robinson SM, Sayer AA, Roberts HC. An overview of appetite decline in older people. *Nurs Older People*. 2015 27(5):29-35.
18. S. Nagaraj, "Loss of Appetite in Adult Patients: Effectiveness and Safety of an Appetite Stimulating Medication in an Open-Label, Investigator-Initiated Study in India", *Journal of Nutrition and Metabolism*, vol. 2022, Article ID 2661912, 7 pages, 2022.
19. Anwar N, Ahmed NZ, Begum S, Ansari AP, Viswanathan AJ, Appetite-inducing effect and safety evaluation of Habb-e-Hilteet in patients with Ḍu'fal-Ishtihā (anorexia): An

- open prospective clinical trial, *Journal of Drug Delivery and Therapeutics*. 2022; 12(6):38-43
20. Pilgrim AL, Robinson SM, Sayer AA, Roberts HC. An overview of appetite decline in older people. *Nurs Older People*. 2015 27(5):29-35.
 21. S. Nagaraj, "Loss of Appetite in Adult Patients: Effectiveness and Safety of an Appetite Stimulating Medication in an Open-Label, Investigator-Initiated Study in India", *Journal of Nutrition and Metabolism*, vol. 2022, Article ID 2661912, 7 pages, 2022.
 22. Ezeoke CC, Morley JE. Pathophysiology of anorexia in the cancer
 23. Wilson MM, Thomas DR, Rubenstein LZ, et al. Appetite assessment: simple appetite questionnaire predicts weight loss in communitydwelling adults and nursing home residents. *Am J Clin Nutr*. 2005
 24. Kabirudin(1916)sharahasbaab, hikmat book depot,hyderabaadvol 3 p233-235,430-433
 25. Kabirudin(2005)tarjuma-e-kabirvol 3 dafrul mashi,hyderabadpp50,94
 26. Sabrina Lau,1,2,* Kalene Pek,2 Justin Chew,1,2 Jun Pei Lim,1,2 Noor Hafizah Ismail,2,3 Yew Yoong Ding,1,2 Matteo Cesari,4,5 and Wee Shiong Lim1,2The Simplified Nutritional Appetite Questionnaire (SNAQ) as a Screening Tool for Risk of Malnutrition: Optimal Cutoff, Factor Structure, and Validation in Healthy Community-Dwelling Older Adults,*Nutrients*2020 Sep; 12(9): 2885
 27. *"Loss of Appetite - Digestive Disorders"*, *Merck Manuals Consumer Version*. Retrieved 2021-10-27
 28. Hochkogler CM, Liszt K, Lieder B, et al. Appetite-Inducing Effects of Homoeriodictyol: Two Randomized, Cross-Over Interventions. *Mol Nutr Food Res*. 2017; 61(12):10.1002/mnfr.201700459
 29. V. R. Garcia, E. López-Briz, R. C. Sanchis, J. L. G. Perales, and S. Bort-Martí, "Megestrol acetate for treatment of anorexia-cachexia syndrome," *Cochrane Database of Systematic Re-views*, vol. 2013, no. 3, Article ID CD004310, 2013
 30. Lai SL. Ch 1. Guangdong: People's Publishing House; 2000. *Clinical Trials of Traditional Chinese Materia Medica*. [Google Scholar]
 31. Eisenberg DM, Kessler RC, Foster C, Norlock FE, Calkins DR, Delbanco TL. Unconventional medicine in the United States. Prevalence, costs, and patterns of use. *N Engl J Med*. 1993;328:246-52.

Comment [H119]: Most of reference is not as per journal guide line. Correct it carefully