



ANTI-AGING DRUGS IN UNANI MEDICINE

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DOI: 10.7897/2277-4572.03195

Published by Moksha Publishing House. Website www.mokshaph.com

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Received on: 25/12/13 Revised on: 23/01/14 Accepted on: 09/02/14

ABSTRACT

Aging is a process of gradual, progressive and generalized impairment of functions resulting in the loss of adaptive response to stress and in increasing the risk of age-related diseases. According to Unani concept, aging is the result of tahleele ratoobate ghareezia by hararate ghareezia to maintain the organism in functional state and inadequate Compensation of tahleel by Quwwate hadima that maintain balance or homeostasis. Geriatric care is mentioned in Unani literature under the heading of tadabeer mashaikh. The concept of protection of an organ, stimulation of Hararate-gharizia and augmentation of vital force of important organs is the distinguishing feature of Unani medicine. The concept aims at maintaining the vitality of organs by protecting it from untoward stimuli and strengthening it to be able to cope with the diverse physiological climate. A number of drugs like Amla, Zanjabeel, Garlic, Kalonji categorize to possess such effects are frequently used in Unani medicine. Some of the drugs studied in recent years demonstrate promising effect.

Keywords: Unani medicine, Anti-aging drugs; Antioxidant activity

INTRODUCTION

According to Tibbe unani, the people of above 60 years of age are considered as mashaikh. Unani scholars were well aware about the aging process and categorize the mashaikh under abdane zaeefa.¹ According to modern theory, Aging is a process of gradual, progressive and generalized impairment of functions resulting in the loss of adaptive response to stress and in increasing the risk of age-related diseases.² While according to Unani concept, aging is the result of tahleele ratoobate ghareezia by hararate ghareezia to maintain the organism in functional state and inadequate Compensation of tahleel by Quwwate hadima that maintain balance or homeostasis. Due to increased tahleel of ratoobate ghareezia, hararate ghareezia weakens because ratoobate ghareezia provide matter for hararate ghareezia. Quwwate hadima also get weakened due to weakness in hararate ghareezia, ultimately resulting in decreased formation of akhlat and ratoobat, and decreased availability of the substitute of tahleel. Decrease in hararate ghareezia changes the mizaj relatively to barid; gradual increase with age in baroodat results in decline of quwa (faculties) thereby afaal (functions) of the body. As all quwa requires hararat for performing afaal (function). Depravity of humors or dryness continues neutralizing the ratoobat of the body until the form ceases to have a capacity for life. Thus, healthy aging can be secured by the safeguarding of innate moisture from too rapid dissipation, and maintaining it at such a degree of strength that the original type of constitution peculiar to the person shall not change even up to the last moment of life.³⁻⁸ A number of single and compound drugs like Amla, Zanjabeel, Asgandh, Garlic, Zafraan, Kalonji, Tiryaq wabai, Majoon falasfa etc. categorize to possess such effects are frequently

used in Unani medicine and now are proven to have anti oxidant and immune modulator properties. Scientific studies revealed that, antioxidants drugs have definite role in the prevention of geriatric diseases.

Recent Studies on Various Drugs

Tiryaq Wabai

It is a Unani compound formulation ingredients are Elva, Mur-makki and Zafran in the ratio of 2:1:1. A randomized placebo controlled trial was conducted at NIUM hospital, Bangalore, India. 30 immuno compromised elderly persons were selected and randomly assigned, 20 in test and 10 in control group. Tiryaq Wabai (Unani compound formulation) was given to test group 500 mg orally three times a week for 45 days. Placebo was given orally to the control group at a dose of 500 mg three times a week for 45 days. Response was assessed by TLC, lymphocyte percentage, Absolute lymphocyte count and CD4 count. The test drug showed statistically significant increase in TLC ($P < 0.001$), Lymphocyte percentage ($P < 0.001$), ALC ($P < 0.001$) and CD4 count ($P < 0.001$) in comparison to control group.⁹

Asgand (*Withania somnifera*)

In a double-blind clinical trial, ashwagandha was tested in a group of 101 healthy males, 50-59 years old, at a dosage of 3 g daily for one year. A significant improvement in hemoglobin, red blood cell count, hair melanin and seated stature was observed. Serum cholesterol decreased and nail calcium was preserved. Erythrocyte sedimentation rate decreased significantly and 71.4 percent reported improvement in sexual performance.¹⁰

Drugs mentioned in Unani Literature for Geriatric Care

S. No.	Name of Drug	Origin	Scientific name
1	Aamla	Plant	<i>Embllica officinalis</i>
2	Anjeer ⁵	-do-	<i>Ficus carica</i>
3	Asgand ⁵	-do-	<i>Withania somnifera</i>
4	Aabresham ⁵	Animal	<i>Bombyx mori</i>
5	Ambar ⁵	-do-	<i>Ambra grasea</i>
6	Asl ⁵	-do-	(Honey)
7	Badam	Plant	<i>Prunus amygdalus</i>
8	Badranjboya ⁵	-do-	<i>Nepeta hindostana</i>
9	Behman ⁵	-do-	<i>Centaurea behen</i>
10	Busd	Animal	<i>Corallium rubrum</i>
11	Darchini	Plant	<i>Cinnamomum zeylanicum</i>
12	Darunaj	-do-	<i>Doronicum hookeri</i>
13	Elva	-do-	<i>Aloe barbadensis</i>
14	Faranjmushk	-do-	<i>Ocimum gratissimum</i>
15	Filfil Daraz	-do-	<i>Piper longum</i>
16	Gandana	-do-	<i>Allium ascalonicum</i>
17	Gaozaban	-do-	<i>Borago officinalis</i>
18	Habb-ul Aas	-do-	<i>Myrtus communis</i>
19	Halela	-do-	<i>Terminalia chebula</i>
20	Heel Kalan	-do-	<i>Amomum subulatum</i>
21	Irsa	-do-	<i>Iris ensata</i>
22	Jadwar	-do-	<i>Delphinium denudatum</i>
23	Jaiphal	-do-	<i>Myristica fragrans</i>
24	Javitri	-do-	<i>Myristica fragrans</i>
25	Kahruba	-do-	<i>Pinus succinifera</i>
26	Kalonji	-do-	<i>Nigellia sativa</i>
27	Karafs	-do-	<i>Apium graveolans</i>
28	Khulanjan	-do-	<i>Alpinia galanga</i>
29	Khurma	-do-	<i>Phoenix dactylifera</i>
30	Kundur	-do-	<i>Boswellia serrata</i>
31	Mastagi	-do-	<i>Pistachia lentiscus</i>
32	Mur Makki	-do-	<i>Commiphora myrrh</i>
33	Mushk	Animal	<i>Moschus moschiferous</i>
34	Nagar Motha	Plant	<i>Cyperus rotundus</i>
35	Nakhud	-do-	<i>Cicer arietinum</i>
36	Nankhwah	-do-	<i>Trachyspermum ammi</i>
37	Naana	-do-	<i>Mentha arvensis</i>
38	Ood	-do-	<i>Aquilaria agallocha</i>
39	Pista	-do-	<i>Pistacia vera</i>
40	Qaranfal	-do-	<i>Syzygium aromaticum</i>
41	Qust	-do-	<i>Saussurea lappa</i>
42	Sandal	-do-	<i>Santalum album</i>
43	Seer	-do-	<i>Allium sativum</i>
44	Sumbul-ut-Teeb	-do-	<i>Nardostachys jatamansi</i>
45	Taj	-do-	<i>Cinnamomum cassia</i>
46	Turanj	-do-	<i>Citrus medica</i>
47	Unsul	-do-	<i>Urginea scilla</i>
48	Zafran	-do-	<i>Crocus sativus</i>
49	Zaitoon	-do-	<i>Olea europea</i>
50	Zanjabeel	-do-	<i>Zingiber officinalis</i>
51	Zaranbad	-do-	<i>Zingiber zerumbet</i>
52	Zarnab	-do-	<i>Taxus baccata</i> ³⁻⁸

Amla (*Embllica officinalis*)

Vitamin C in EO accounts for approximately 45-70 % of the antioxidant activity. The administration of ethyl acetate (EtOAc) extract of Amla or Sun Amla (Taiyo Kagaku Co., Ltd., Japan) reduced the elevated levels of urea nitrogen and serum creatinine in the aged rats. Oral administration of this extract significantly reduced thiobarbituric acid-reactive substance levels of serum, renal homogenate and mitochondria in aged rats, suggesting that Amla would ameliorate oxidative stress under aging. The increase of inducible nitric oxide synthase (iNOS) and cyclooxygenase (COX)-2 expressions in the aorta of aging rats were also significantly suppressed by EtOAc extract of Amla or Sun Amla extract. EtOAc extract of Amla or Sun Amla reduced the COX-2 and iNOS expression levels by inhibiting NF-kappaB activation in the aged rats. Thus Amla would be a

very useful antioxidant for the prevention of age-related renal disease.¹¹

Honey

Honey contains many minor components with antioxidant activity, among which are amino acids and proteins, carotenes, phenolic compounds and flavonoids, ascorbic acid and organic acids. It has been proposed that the antioxidant capacity of honey is mainly due to the phenolic compounds and flavonoids they contain, and there is a high correlation ship between polyphenols and antioxidant capacity of Honey.¹²

Elva (*Aloe barbadensis*)

There are many substances in Aloe that exhibit the antioxidant effects. The acting substances are the minerals, Manganese and Copper, vitamins B2, B6, C, and E, and the

amino acid cysteine. Manganese is a powerful antioxidant that slows down the aging process and makes cells stronger in the fight against the negative effects of oxygen and broad spectrum radiation, to which we are exposed daily. It constitutes a part of the enzyme superoxide dismutase, an allied anti-free radical of the pancreas, liver and kidneys. Copper is an oligo element essential to health. Also a strong antioxidant, Copper greatly limits the damaging effects of free radicals, mainly through the protein ceruloplasmin, which oxidizes the reduced form of iron responsible for the formation of free radicals. Through the enzyme superoxide dismutase, the copper element, which is one of its constituents, prevents rancidity of polyunsaturated fatty acids and keeps the cellular membranes strong. Vitamin B12 actively takes part in complex cellular metabolic processes by being an indispensable regulator together with the enzyme glutathione reductase, as part of the process of maintaining stable levels of glutathione, a highly active anti-free radical. Riboflavin limits and inhibits, in part, the toxic byproducts of cellular respiration, a natural metabolic process which is highly oxidative. Vitamin B6 plays a role in the metabolism of the important essential amino acid, tryptophan, which is involved in protein synthesis and is a strong antioxidant. Vitamin C, another strong antioxidant, limits the damage caused by the oxidation of free radicals to the white blood cells. It is known that white blood cells are responsible for our immune defense, by which sickness or disease is overcome more easily. Vitamin E interacts in cellular energy production processes and is truly important to our health, especially during nervous system and immune system illnesses. Cysteine is also a member of Aloe's antioxidant team. This non-essential amino acid is considered a guarantee to our health and longevity, by de-activating free radicals through its sulphurous function group, a good antioxidant, and, secondly, by protecting and strengthening cellular membranes from external attacks. Recent studies have demonstrated that cysteine, together with the B group of

vitamins, can bind toxic molecules formed by disease processes and create inoffensive and harmless compounds.¹³


CONCLUSION

Exhaustive description on geriatric care is mentioned in Unani literature under the heading of Tadabeere Mashaikh. Under this section, various drugs are described like amla, Elwa, zafran, honey, kalonji etc. Some of the drugs studied in recent years demonstrate promising effect, which justify up to a large extent the anti aging effect of drugs mentioned in Unani literature.

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Source of support: Nil, Conflict of interest: None Declared

<p>QUICK RESPONSE CODE</p> 	ISSN (Online) : 2277 –4572
	<p>Website</p> <p>http://www.jpsionline.com</p>

How to cite this article:

Malik Itrat, Javed A. Khan. Anti-aging drugs in Unani medicine. *J Pharm Sci Innov.* 2014;3(1):1-3 <http://dx.doi.org/10.7897/2277-4572.03195>