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Iksir-e-Badan (Elixir): Unique Influence from Unani Medicine – A Review

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ABSTRACT

The concept of *Iksir-e-Badan* (Elixir) in Unani System of Medicine dates back to time immemorial and the connotation itself derived from an Arabic word “*Al-Iksir*”. Some selected *advia* (single & compound drugs, either plant, animal or mineral origin) are described under its caption. *Iksir-e-Badan* (*Aab-e-Hyat/Maddat-ul-Hayat/Rasayana/Elixir*) is defined as “One who obtains perpetuity, regains youth, get sharp memory and liberty from disease”. Unani Medicine advocate its use for two purposes i.e. one is to maintain the *Sehhat* (Health) and other for *Izala-e-Marz* (Cure the disease). The traditional Indian systems, particularly Unani System of Medicine advocates diverse modalities pertaining to prevention and cure of ailment and emphasize on diet, lifestyle modification and intake of drugs as corner stone of treatment. Medicinal plant products are known to influence different aspects of *Umoor-e-Tabiy'a* (Principles of Human physiology) and wield an alleviating impact on numerous pathophysiological conditions. It is only in recent years that the scientific notion of immunomodulation has been put forth with some of the beneficial effects of Indian medicinal plants. Some of the Unani drugs which act as *Iksir-e-Badan* are: Gilo (*Tinospora cordifolia*), Momiyai (*Salajeet*), Asgandh (*Withania somnifera*), Satavar (*Asparagus racemosus*), Jadwar (*Delphinium denudatum*), Waj (*Acorus calamus*), Tahlab (*Spirulina platensis*) and some formulations; *Itriphalat*, *Mufarrehat*, *Khamirajat*, *Kushtajat* etc. Unani scholars also advocated the use of these drugs during *Waba* (Epidemics) as prophylactics. A meticulous attempt has been made to enunciate the concept of *Iksir-e-Badan* in relation to some contemporary systems and highlight some drugs possessing *elixir* rich properties in Unani medicine.

Keywords: *Iksir-e-Badan*, *Elixir*, Unani Medicine, Anti-oxidants, Rasayana.

1. Introduction

The traditional Indian Systems of Medicine which includes Unani enunciates diverse modalities pertaining to prevention and cure of ailment and emphasize on diet, lifestyle modification and intake of drugs as corner stone of treatment. Medicinal plant products are known to influence different aspects of *Umoor-e-Tabiy'a* (Principles of Human physiology) and wield an alleviating impact on numerous pathophysiological conditions by Ibn-Sina in his book “*Al-Qanoon fit Tib*”. Immunology is one of the most rapidly developing areas of medical biotechnology research and has great promise with regard to the prevention and treatment of a wide range of disorders such as the inflammatory diseases of skin, gut, respiratory tract, joints and central organs. Immunomodulators correct immune system that is impaired or compromised. Natural immunomodulators are less potent than synthetic immunomodulators but are less likely to produce adverse effects. The use of immunomodulators has the potential to stimulate innate and acquired defense process such as cytokines, which enables the body to aid itself. A number of disorders such as viral infections, different cancers and autoimmune disease can be managed with immunostimulant drugs. Immunomodulators are increasingly used as adjuvant therapy to establish modalities offering an innovative approach in the management of infectious diseases in the coming decades [1, 2]. Many medicinal plants and their active components are a source of immunomodulatory agents and are gaining importance. Uses of plant products to enhance the phagocytic ability of macrophages and increase the antibody production by β -cells have been well documented by several researchers [3-6]. As discussed by Subramoniam, there are two approaches to develop successful drugs from medicinal plants. One is a phytochemical approach which emphasizes the development of pure phytochemicals as drug. The second is a phytotherapeutic approach where in standardized crude drug preparations can be used as drugs with modern standards of safety and efficacy.

It is cost effective and more pertinent to our conditions. As far as the Indian medicinal plants are concerned, the second approach could be followed [7]. The variations in active principle of a medicinal plant in different ecotypes cannot be determined by phytochemical analysis, as mostly it is not established. But pharmacological and toxicological evaluations on experimental animals could limit this discrepancy aspect and determine the efficacy and safety of these agents. These studies can be simplified only by bringing together professionals from the alternative and western systems of medicine interested in development of standardized herbal medicines for clinical use [8].

2. *Iksir-e-Badan*

Iksir-e-Badan is an enigmatic drug which keep entire body in healthy state as well as protects heart and brain. All the unhealthy states like disease, old age, weakness etc. may be alleviated by this wonder drug, the person into young and healthy. In this way the term applies on both i.e. *Iksir-e-Ajsaad* and *Iksir-e-Ajsam*. The *Iksir-e-Ajsaad* is known as *Kimiya* (alchemy) and *Iksir-e-Aazam*. The *Iksir-e-Ajsam* is known as *Iksir-e-Badan* or *Kimiya-e-Badan*. The term *rasayana* which is synonymous in Ayurveda is applied to *Iksir-e-Badan* or *Kimiya-e-Badan*. This term applies only on those drugs which rejuvenate human body (*Quwwate Mudabber-e-Badan* / *Medicatrix naturae*). Unani scholars use each medicine whether it is of mineral, plant or animal origin as *Iksir-e-Badan* / *Rasayana* supplemented with appropriate treatment or/and methods [9-11].

3. Etymology of *Rasayana*

According to Sir PC Ray (1956) "*Rasa* means Mercury and *Ayana* means Way, where *Rasayana* means Way to mercury, the know-how of mercury". Such an etymology was coined to identify *Rasayana* as alchemy proper or mercurial alchemy. But Charaka used the term *Rasayana* earlier for the art of rejuvenation and for drug employed by that art. Renowned Muslim writer Al-Bairuni quotes it as Gold. *Rasa* has several meanings, its original meaning is *Rasa* (juice), freshly extracted from plant. It is identical with the word *Iya* of Chinese, in the term *Kim-Iya* (Arabic *Kimiya*). Now the Sanskrit Bengali Dictionary, Amarth-Chandrika (1906), translates *Rasa* means *Pran*. Since *Pran* means life or soul. So far no one has paid any attention to Al-Bairuni's etymology, *Rasa* means Gold, as vital in alchemy as the art of gold-making. In all the terms compose with the root *Rasa*, this in variably signifies soul, as something eternal and something capable of growth, for this is the essential future of life. Since the word *Rasa*, as incorporated in the term *Rasayana*, has different meanings all capable of being interpreted as promoting growth or increase i.e. *Rasa* means juice / *jal* / life / *prana* / *retha* / semen / virile / water / gold / *aab-e-hayat* / *iksir-e-badan* / *kaya kalp* / elixir of life / immunomodulator [12, 13].

4. *Rasayana* as Elixir

Traditionally, *Rasayana* drugs are used against a plethora of seemingly diverse disorders with no pathophysiological connections according to western medicine. Though, this group of plants generally possesses strong antioxidant activity, only a few have been investigated in detail. It has been reported that the '*Rasayanas*' are rejuvenators, nutritional supplements and possess strong antioxidant activity. They also have antagonistic actions on the oxidative stressors which giving rise to the formation of different free radicals. Therefore, the therapeutic indication of these drugs can include the diseases relating to all the systems. Their

anti-stress / adaptogenic actions have made them therapeutically more important. Now elixir is an Arabicized Chinese term, there being no word of Greek or Latin origin which conveys the same sense. And this is because neither Hippocrates, who belongs to Greece, nor Galen, who lived in Rome, recognized rejuvenation as possible. The Chinese, whose medicine was also founded by ascetics, likewise recognized rejuvenation as possible and this takes us to the etymology of Elixir. According to Sarton G (1942-43) Elixir means tonic. By tonic is meant a medicament strengthening the system as a whole, whereas Elixir would be vivifying the system as a whole changing a mortal into an immortal. The term used by early Greek alchemists has been "Medicine of Life" mentioned by Taylor (1951). The alchemist recognized an entity called "Prime Matter", which itself as primordial element and source all forms of matter. Prime matter becomes soul-incorporate and thus a synonym of "the one soul" or Elixir [14].

5. *Kimiya* as Elixir

In Arabic *Iksir* means *Kimiya* (the One-soul incorporate) *Kim* means gold and *Iya* means juice, where the term *Kimiya* means juice of gold. Enough has been said to the effect that the ascetic was not concerned with making gold but instead with making himself young and thereby automatically immortal. Base metals were under-developed rickety system. If they could be made to grow continuously to their maximum capacity and remain everlasting as well, they would be transformed first in to gold, or to live ever-lasting life, and also into ferment for it is ever-growing. They then became the donors of the same virtues to descript old man. The drug then becomes ferment-gold; nothing less can be as convincing as a drug of immortality. As mentioned by Read J (1937) mercury and sulphur are our Solar and Lunar seeds, thus generating life form capable of growth and reproduction, exemplified by ferment. The sulpho-mercurial complex then becomes two as one, an autonomous self-generating entity. *Kimiya* means gold making soul. As soul incorporate, *kimiya* becomes a synonym of elixir (*Iksir-e-badan*) as also of *rasayana*, each having being explained before. In *Rasayana*, *rasa* is juice as soul in *Kimiya*, *Iya* again a juice as soul, in elixir Ch'i is clearly soul [15, 16].

6. The elixir of life

It also known as elixir of endurance and occasionally equated with the magic stone, is a mythical / legend or beverage, that when drank from a certain cup, at specific time awards the drinker perpetual life and/or everlasting youth. Many alchemists pursued it. The elixir of life was also supposed to be able to generate life [17]. The Elixir has had hundreds of names (one scholar of Chinese history reportedly found over 1,000 names for it.), including (among others) *Amrit Ras* or *Amrita*, *Aab-e-Hayat*, *Maha Ras*, *Aab-e-Haiwan*, Dancing Water, *Chashma-e-Kausar*, *Mansarover* or the Pool of Nectar, Philosophers stone, and *Soma Ras* [18]. The word *elixir* was not used until the 7th century A.D and derived from the Arabic word "*Al-Iksir*" for incredible substances. It is a word which in the beginning of Ayurveda means the science of macrobiotics or lengthening lifespan, and in later (post 8th century) works sometimes refers to Indian alchemy [19].

7. Alchemy

The name of the science of Indian *Kimiya* (alchemy) has different name. In the beginning Indian alchemical texts argue the use of

equipped forms of mercury (*Para*). However, there is also ample mention of the preparation of medical tinctures in the early science of Indian alchemy. Alchemy is the art of rejuvenation using mercurials. *Rasayana* is the generic term for the art of rejuvenation which first started with the use of herbal mixtures and ended by preferring mercurials. Charaka mentions drugs of rejuvenation, recognition, recognizing the art as a physician. Al-Bairuni speaks of Nagarjuna, by name, who lived about 800 A.D and occupies a position in Indian mercurial alchemy comparable to that of Jabir Ibn Hayyan, an Islamic chemist of the 8th-9th century, to Islamic Science [20, 21]. Al-Bairuni lived in India from 1017-1030 A.D., and found that the Hindus have a science similar to alchemy which is peculiar to them called *Rasayana*. It means the art which is restricted to certain operations, drugs and compound medicines, most of which are taken from plants. Its principles restore health of those who were ill beyond hope and gave back youth to fading old age so that people become again what they were in the age near puberty restored the capacity of juvenile agility and even for cohabitation. Charaka also spoke of rejuvenated sages becoming "attractive to women". Moreover Al-Bairuni dispenses in these few words that, calcinations and sublimation inclined towards mineralogical method of alchemy. Sometimes elixir is understood equivalent to *Makara Dhawaja* or cupid hallmark or panacea which increased the sexual power. These classical *Rasayan* formulas contain a large number of ingredients, including minerals (*Momiyai/Silajeet*), pearl (*Lulu*), coral (*Marjan*) and gems, plants *viz*; *Tinospora cordifolia* (Gilo), *Phyllanthus embelica* (Aamla), *Terminalia chebula* (Halela), *Terminalia belerica* (Balela), *Withania somnifera* (Asgandha), *Asparagus racemosus* (Satavar), *Spirulina platensis* (Tahlab) and include a specially processed (*samskara*) mercury (the word *ras* indicates mercury as an ingredient). Because of negative publicity and cost factor, the use of the classical *rasayana* formulas has declined considerably, and most of the preparations available now have herbal ingredients with a couple of mineral and animal products [22-26]. It is only in recent years that the scientific notion of immunomodulation has been put forth with some of the beneficial effects of Indian medicinal plants. Elixir drugs exert their therapeutic actions by their ability to scavenge free radicals or by their antioxidant potential. There has been a review on some plants of Indian traditional medicine with antioxidant activity. Some of the Unani drugs possessing *elixir* rich properties are: Gilo (*Tinospora cordifolia*), *Momiyai* (Sialajeet), *Aswagandh* (*Withania somnifera*), *Satavar* (*Asparagus racemosus*), *Jadwar* (*Delphinium nudatum*), *Waj* (*Acorus calamus*), *Tahlab* (*Spirulina platensis*) different *Itriphalat*, *Mufarrehat*, *Khamirah*, *Kushtajat* etc. Few of them are deliberated in the light of scientific studies carried out.

a. Gilo (*Tinospora cordifolia*)

Many experimental studies have been carried out to explore ethnobotanical and pharmacological actions. There are large numbers of different chemical constituents which have been identified in Gilo such as berberine, tinosporin, tinosporic acid, tinosporal, essential oil and a mixture of fatty acids shows various medicinal effects [27]. Seven immunomodulatory active compounds belonging to different classes have been isolated and characterized indicating that the immunomodulatory activity of *T. cordifolia* may be attributed to the synergistic effect of group of compounds [28].

Dry stem crude extract of *T. cordifolia* contained a polyclonal β -cell mitogen, which enhanced immune response in mice [29]. Aqueous extract of *T. cordifolia* was found to enhance

phagocytosis *in vitro*. The aqueous and ethanolic extracts also induced an increase in antibody production *in vivo* [30-35]. The alcoholic and aqueous extracts of *T. cordifolia* are reported to have beneficial effects on the immune system and have been tested successfully for their immunomodulatory activity [31-35]. The water and ethanol extracts of stems of *T. cordifolia* immune suppression produced by cyclophosphamide. Ethanol extracts of stems of this plant inhibit cyclophosphamide-induced anemia. The water extract of *T. cordifolia* found to be more potent than the other extracts [36]. Aqueous extract of *T. cordifolia* exhibited boosting of phagocytic ability of macrophages, remarkable enhancement in nitric oxide production by stimulation of splenocytes and macrophages at 1mg/kg dosage of the extract. Immunomodulatory ability of a compound can be determined by its capability to influence the cytokine production, mitogenicity, stimulation and activation of immune effector cells [37]. Aqueous, ethanol and chloroform extracts of leaves & stem of *Gilo* was significantly found to contain antibacterial activity against urinary pathogens *viz.*, *Escherichia coli*, *Klebsiella pneumoniae*, *Proteus vulgaris* and *Pseudomonas aeruginosa* [38]. Oral administration of *T. cordifolia* alcoholic extract (100 mg/kg) was found to increase in foot pad thickness which indicates its immunomodulatory effects as compared to vehicle and cyclophosphamide treated groups. Significant increase in the WBC counts and bone marrow cells reveals stimulatory effect on haemopoietic system. In zinc sulphate turbidity test *T. cordifolia* treated rats serum showed the more turbidity (cloudy) which indicate the increase in the immunoglobulin level [39]. Water extract of *T. cordifolia* was found to significantly decrease eosinophil count and increase hemoglobin percentage in HIV/AIDS patients, due to immunomodulator effect in the presence of active constituent's cordioside and tinosporoside [40].

b. Sat-e-Salajeet (*Momiyai*)

A large number of studies has been undertaken to explore chemical constituents and pharmacological properties of *Salajeet*. It is a mineral origin drug. There are four different varieties of *Salajeet* which have been described in Charka Samhita, namely *savrana*, *rajat*, *tamra* and *lauha Salajeet*. *Lauha Salajeet* is commonly found in Himalayan ranges and is supposed to be most effective according to the therapeutic point of view [41, 42]. It was found that *Salajeet* have two groups of organic compounds, *viz*; Humic substances and non-humic organic metabolites. Humic substances are the major organic constituents of *Salajeet* present in an amount of about 80-85%. The humic substances can be further divided into three fractions Fulvic acids, Humic acids and Humins which shows immunomodulator and antioxidant activity [43-45]. Hakim Najmul Ghani classified *Salajeet* in his Book, "*Khazainul Advia*", as of two types; *Aaftabi* and *Aatishi* in which former is better. Ibne Baitar (1197-1248 AD) described about *Momiyai*, in his famous Book, "*Al-Jame le Mufradat Al-Advia wa Al-Aghzia*", as *Faqurual Yahud* (Persian word) [46, 47]. Some scholars mentioned it as a panacea which has been used as a rejuvenator and as adaptogenic for thousands of years, in one form or another as part of traditional systems of medicine (Unani, Ayurveda) in a number of countries [48-52]. It was also reported that *Salajeet* shows immunomodulator activity [53]. Higher concentration of *Salajeet* revealed free radical scavenging and antioxidant effect against SO_3 , OH radical and paramagnetic nitric oxide [54].

c. Asgand (*Withania somnifera*)

In Unani System of Medicine, *Asgand* is used as nervine tonic,

aphrodisiac, sedative, antirheumatic. It relieves inflammation, pain, backache and it stimulates sexual impulses and increases sperm count. It is considered for strength, vigor and rejuvenation. It is used as adaptogenic, antiarthritic, antispasmodic, anti-inflammatory, nerve tonic, nerve soothing, antioxidant, immunomodulator, free radical scavenger, anti-stress and anti-cancer agent [55, 56]. Several recent studies have provided evidence for its anti-stress, antioxidant, analgesic, anti-inflammatory, anti-cancer, cardioprotective adaptogenic, anti-spasmodic, immunomodulatory and immunostimulant activity [57].

d. Satavar (*Asparagus racemosus*)

Satavar is an important medicinal plant and its uses are reported in traditional systems of medicine and is described as rasayana and galactogogue. It is used to treat various diseases such as ulcer, dyspepsia and debility. Chemically, *satavar* roots contain steroidal saponins known as shatavarins I-IV, isoflavones and alkaloids including asparagine and racemosol as major compounds. In last decade, a few pharmacological and immunomodulatory activities of *satavar* have been studied. For instance, *satavar* root extract was shown to restore lymphocyte and neutrophils counts in myelosuppressed animals, which was comparable to lithium and glucan. In addition, *satavar* roots were also reported to modulate macrophage functions resulting in significant reduction in severity of peritoneal adhesions [58].

e. Jadwar (*Delphinium denudatum*)

It is one of the most important drugs used in the Unani System of Medicine. The rhizome is bitter, stimulant, alterative, tonic, used in a variety of ailments such as aconite poisoning, brain diseases, fungal infection, piles and toothache as analgesic and astringent [59]. β -Sitosterol are important bioactive component of medicinal plant extract exhibiting various pharmacological properties such as anti-inflammatory, anti-pyretic, anti-arthritic, anti-ulcer, insulin releasing and oestrogenic effects and inhibition of spermatogenesis. β -Sitosterol is mainly known and used for its cholesterol lowering property and antioxidant activity [60].

f. Tahlab (*Spirulina platensis*)

Tahlab is an Arabic word which means a green substance float on the surface of water, commonly known as algae/spirulina. *Spirulina* is painstaking as an excellent food, lacking toxicity. *Spirulina* has carotenoids, chlorophyll and the unique blue pigment phycocyanin. Phycocyanin can provide admirable health benefits have been identified to include immuno-modulator, anti-oxidant, anti-cancer, anti-obesity, hypoglycaemic, anti-hyperlipidemic, anti-inflammatory, anti-hypertensive, anti-asthmatic, antimicrobial, anti-parasitic and neuro-protective effects. It acts as natural remedy for many ailments for centuries in ancient systems of medicine. After the assessment of literature about spirulina and its medicinal value, it is found that it can treat all ailments except "death". So, it can also be called as *Maddat-ul-hayat/Aab-e-hayat* (elixir of life) [61-64].

g. Khamirahjat

Khamirahjat is a plural word and its singular is "*Khamirah*". The word *Khamirah* in Unani System of Medicine indicates fermented confection, first introduced by the Hukama (physicians) of the Mughal period, it is a semi-solid preparation, a type of *Majoon*, which is prepared by adding a decoction of herbal drugs or powdered drugs to base made up of sugar or honey. Other than

herbal ingredients, animal and mineral origin drugs are also mixed, either by making solution in aqua or as a micro-fine powder. It is used for cardiac ailments and for *Wabaie Amarz* (Epidemic Diseases) such as *Khafqan* (Palpitation), *Zof-e-Qalb* (Weakness of the Heart), *Judri* (Chicken Pox), *Hasba* (Measles), *Tao'on* (Plague), Dengue, Swine-Flu and so on. On the basis of their constituents these are *Khamira Gaozaban Ambri Jadwar Ood Saleeb Wala*, *Khamirah Aabresham*, *Khamirah Gaozaban*, *Khamira Marwareed* and so on. *Khamirahjat* are also used as general tonics for other vital organs like *Kabid* (Liver) and *Dimagh* (Brain). In view of the increasing number of cardiac diseases, a thorough evaluation of this ancient work on *Khamirah* is of special significance. Some of the studies revealed *Khamirah's* antioxidant and immunomodulator properties [65-67].

8. Conclusion

It is evident from the above review and discussion that most of the '*Al-Iksir*' drugs possess potent antioxidant activity for managing myriad ailments. Several studies with medicinal plants are going on throughout the world to identify antioxidant compounds that are pharmacologically potent with minimal or no adverse effects. Unani System of Medicine provides lots of input to find active and therapeutically useful compounds from plants. Many '*Al-Iksir*' formulations in Unani System of Medicine may have antioxidant activity arising from individual plants, and may act synergistically to prevent ageing, related degenerative diseases and *Istirkha* (muscular dystrophy). Further studies to isolate active principles from these plants and their formulations (*Itriphal Saghir* etc.) for pharmacological validation on scientific parameters will open more vistas in tackling challenges posed by emerging lifestyle and autoimmune disorders. But this warrants a sustained and concerted effort to correlate elixir drugs to antioxidants for global acceptance.

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