

Therapeutic potential of *Swarnprashan Yoga* -A Review**Sarita P. Pasi¹, Shivani J. Mishra*²**

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***Corresponding author:** dr.shivanimishra25@gmail.com**ABSTRACT:**

Administration of processed gold in children is a unique practice mentioned in *Ayurveda* as *Swarnaprashana* by *Acharya Kashyapa* thousands of years back. He explained evidently the administration of *Swarna* (gold) in children for the benefits of improving intellect, digestion and metabolism, physical strength, complexion and immunity. There are various formulations of gold and even along with herbal drugs explained by different *Acharya* for prolonged usage in children. This review proposes that the benefits of *Swarnaprashana* can be achieved at multiple levels like as a general health promoter and in specific to enhancement of intelligence, digestion, metabolism, immunity, physical strength, complexion. *Ayurveda* recommends only purified and processed form of gold for internal administration. *Swarnaprashana yoga* content *Vachadi Ghrita*, Honey and *Swarnbhasma*. *Swarnprashan Yoga* ingredients are proved to possess nootropic, anticonvulsants,

antidepressant, antiepileptic, antipsychotic, antioxidant, immunomodulatory properties. This study is to gather the scientific research findings supporting the use of *Swarnprashan yoga* and its ingredients.

KEY WORDS: *Swarnprashan yoga*, *Ayurveda*, Medicated ghee, Nootropic, immuno-modulator, *Vachadi ghrita*.

INTRODUCTION:

The usage of metals and minerals was well-known to mankind since thousands of years. *Ayurveda* is the science of life which emphasizes on two main objectives of maintenance and promotion of positive health and cure of the diseases. For prevention purpose, many regimes are mentioned and *Swarn Prashana* is one of them. In *Ayurveda Swarna Prashan* (SP) is quoted to be effective in increasing intelligence, strength and potency to longevity. [1]

Acharya Kashyapa described *Swarna Prashana* as *Jatkarma Sanskara* for the neonatal care in *lehan.adhaya* of *Sutra Sthana* in his written before 600

B.C. He explains the preparation of *Swarna Prashana*, one should sit facing towards the *Poorva Disha* (east direction), take and rub it against the hard surface like stone with water and then mix with Madhu given for licking. This is called as *Swarna Prashana* and benefits of this are improvement in digestion, improvement of intellect, *Agni* (improvement in digestion), *BalaVardhanam* (improvement in strength and immunity), *Ayu Vardhanam* (improvement in life span), *Mangalya, Punya* (auspicious) *Grahapaham* (relieves bad evil). By administering *Swarna* to child for one month, he becomes *Param Medhavi* (super intelligent) and by administering for upto six months, person becomes *Shrutadhara* (can remember whatever he/she hears). The appropriate day for *Swarna Prashana* is *Pushya Nakshatra*.^[2,3,4]

METHOD OF PREPARATION OF SWARNPRASHAN:^[5]

Sr. No.	Content	Proportion
1	<i>Vachadi ghris</i>	60%
2	Honey	40%
3	<i>Swarnbhasma</i>	0.15%

MODERN REVIEW OF GOLD AS IMMUNOMODULATOR:

Gold is one of the noble metals being used in continuity to increase the vitality and immunity. In medicine, most interesting part is the use of nano-particles to enhance drug delivery system. In traditional system of medicine Indian gold was used either as *Swarna Bhasma*, *Swarna Parpati*, *Swarna Patra* or as red colloidal solution. In *Ayurvedic bhasmas*, the gold is used in the

form of purified metallic fine powder (probably as nano-particles) or red colloidal solution where both are prepared by elaborate treatments including using herbal extracts and even with other metals.

This is very true that application of *Swarna Bhasma* is time tested in Indian civilization with a praiseworthy therapeutic efficacy. Not only *Swarna Bhasma* but utensils of Gold were also in practice in ancient times with the objectives of prevention of disease, *Swarna prashan* was a highly admirable ritual in high society. Now, it has been established that *Swarna Bhasma* is in range of nano particle size and remains mostly in form of mono atomic gold.^[6]

The success of preparing a genuine *Ayurvedic bhasma* depends on the technique of heat treatment (called as *putas*) to the homogeneous paste prepared by mortaring microfinned metal thoroughly mixed with appropriate plantjuices. Normally a large number of calcination cycles are necessary and for each cycle the process of mortaring the microfinned metal and plant juice is to be freshly repeated. Therefore synthesis of these bhasmas is a complicated and tedious procedure and *Ayurvedic experts* prepared these bhasmas on certain SOP and GMP norms notified by Dept. of *AYUSH* for the same.

Recent researches proved that *Ayurvedic pharmaceutical procedures* are enough capable to convert raw materials of metallic origin into form of nano particles. A study at National Chemical Laboratory ascertains these facts on gold. A close comparison of method and material sustain the claims. This has been proved that nano structure of a material is changed material in every aspect from parent material. The discovery that nanoscale gold particles function as active and selective catalysts for a variety of important chemical reactions has provoked

much research interest in recent years.

Researchers have also reported the mode of action of metal nano particles in detail. Harvard Medical School researchers report in the Feb. issue of *Nature Chemical Biology* that special forms of gold, platinum, and other classes of medicinal metals work by stripping bacteria and virus particles from the grasp of a key immune system protein.

MHC class II proteins are associated with autoimmune diseases. MHC class II proteins normally hold pieces of invading bacteria and virus on the surface of specialized antigen presentation cells. Presentation of these pieces alerts other specialized recognition cells of the immune system called lymphocytes, which starts the normal immune response. Usually this response is limited to harmful bacteria and viruses, but sometimes this process goes awry and

the immune system turns towards the body itself causing autoimmune diseases such as Juvenile diabetes, Lupus, and rheumatoid arthritis.[7]

During their search through thousands of compounds they found that the known cancer drug, Cisplatin, a drug containing the metal platinum, directly stripped foreign molecules from the MHC class II protein. From there, they found that platinum was just one member of a class of metals, including a special form of gold, that all render MHC class II proteins inactive.

In subsequent experiments in cell culture, gold compounds were shown to render the immune system antigen presenting cells inactive, further strengthening this connection. These findings now give researchers a mechanism of gold drug action that can be tested and explored directly in diseased tissues.

Such kind of mode of action for *Ayurvedic Swarna Bhasma* is urgently needed for more scientifically validated therapeutic application of all these formulation containing *Swarna Bhasma* of Ayurveda. Many authorities of subject are continuously indicating cautions in application of nano particles. Development of novel nano particles must be followed by the assessment of their potential risks on life and environment, and possible remedial measures.[8]

2. Action of Madhu:

Madhu is manufactured from pollen grains by bees. The reason behind adding Madhu in *Swarna Prashana* is that when Madhu is administered in low doses to newborn, the child gradually develop resistance for allergens and it remains unaffected by allergic disorders. Raw honey possesses nootropic effects, such as memory-enhancing effects, as well as neuropharmacological activities, such as anxiolytic, antinociceptive, anticonvulsant, and antidepressant activities. The belief that honey is a memory-boosting food supplement is actually ethnotraditional as well as ancient in nature. For instance, honey is reported to be an important component of *Brahma rasayan*, an Ayurvedic formulation that is prescribed to extend the lifespan and improve memory, intellect, concentration, and physical strength. One established nootropic property about honey is that it assists the building and development of the entire central nervous system, particularly among newborn babies and Preschool age children, which leads to the improvement of memory and growth, a reduction of anxiety, and the enhancement of intellectual performance later in life.[9]

Additionally, the human brain is known

to undergo postnatal development with the obvious maturation and reorganization of several structures, such as the hippocampus and cerebral cortex. It has been reported that this postnatal development occurs through neurogenesis, which occurs predominantly during childhood, and this development can also extend into adolescence and even through adulthood. Empirical, but striking, evidence supporting this concept was provided by an experiment that was conducted on postmenopausal women; those who received honey showed improvements in their immediate memory but not in immediate memory after interference or in delayed recall. In another study, the normal diet of two-month-old rats was supplemented with honey, and their brain function was assessed over a one-year period. Honey-fed rats showed significantly less anxiety and better spatial memory throughout all stages compared with the control group of rats. More importantly, the spatial memory of honey-fed rats, as assessed by object recognition tasks, was significantly greater during later months.^[10]

According to *Ayurveda* honey is sweet and astringent in taste, cold in potency and it has properties like *strosodhan*, *yogavahi* and *medhya*. Due to its *yogvahi* property it can augment the activities of all the drugs given with it.

3. Action of *Ghrita*:

Ghrita has important medicinal value in Ayurvedic texts. It increases mental ability and it enhances the function of drug added with it. It helps in growth and development of child. It also provides nutrition to newborn until lactation starts properly. Medicated ghee, one of the potent poly herbal dosage forms has been prescribed to treat different CNS disorders. These

lipid base formulations might have potential to cross blood brain barrier and show beneficial effects on brain tissue.

Vachadi Ghrita is one of the medicated ghee formulations claimed in Ayurved to improve cognition (intellect and memory). Eight herbal drugs of *Vachadi Ghrita* have been reported for their Anti psychotic, Anti-stress, Antidepressant, and Nootropic activities. It is assumed that synergism of these herbal drugs in preparation of *Vachadi Ghrita* and extraction of lipid soluble extractives of these drugs in Goghrita (Cow Ghee) may show cumulative positive effect on cognition and helps to prevent neuropsychiatric disorders. Vehicle used in preparation of *Vachadi Ghrita* is Goghrita which makes the preparation highly lipid soluble, then easily crosses blood brain barrier. Thus helps to carry active components to specific target site (CNS). Ayurveda has considered ghee to be the healthiest source of edible fat possesses beneficial properties and facilitate the positive effect of herbal drugs added to it in preparation of medicated ghee. It is well documented that Goghrita promotes longevity and protects normal functioning of body entities as well intellect and memory.^[11]

Critical Review of *Vachadi Ghrita*:

Ayurvedic pharmacology explains actions of each ingredient of *Vachadi Ghrita* according to their properties. These drugs possess Ushna (hot), Teekshna (penetrating) properties and *Vata- Kaphashamak* activities. As per ayurvedic theory it is said that the cumulative effect of these ingredients is

seen in final product i.e. *Vachadi Ghrita*. Hence probably *Vachadi Ghrita* is useful in the treatment of memory impairment occurred due to Kapha-Vata dominance and can be used to improve intellect and memory. Ghee is included in *Chatushsneha* which is “*Sarvasnehottama*” (excellent amongst three other sources). Ghee has specific property i.e. “*Samskarasya-anuvartanat*” means enhances its properties along with the properties of other drugs mixed with ghee without losing its own natural properties. Cow ghee has its own importance amongst the ghee of other animal ghee drugs.[12]

Activity profile of *Vachadi Ghrita* ingredients:

Ingredients	Activity
<i>Apamarg</i>	Antioxidant, antidepressant, immunomodulation, anti-inflammatory
<i>Guduchi</i>	Antioxidant, antipsychotic, immunomodulatory
<i>Haritaki</i>	Antistress, antioxidant, memory enhancer
<i>Shankhapushpi</i>	Nootropic, anticonvulsant, antioxidant
<i>Shati</i>	Nootropic, immunomodulatory
<i>Shunthi</i>	Antidepressant, antipyretic, anti-inflammatory, analgesic, hypoglycaemic,
	memory enhancer, Nootropic activity
<i>Vacha</i>	Antidepressant, antistress, memory enhancer, antioxidant, antibacterial
<i>Vidang</i>	Antidepressant, hepatoprotective

Eight ingredients of *Vachadi Ghrita* maximally have action on CNS as nootropic, memory enhancer, antidepressant and antioxidant. Thus it is interpreted that as a cumulative effect *Vachadi Ghrita* prepared with all these ingredients may have all these activities.

Anticonvulsant Activity:[13]

The comparative study confirmed that the anticonvulsant activity of classically processed *vacha* is more than raw *vacha*. *Convolvulus pluricaulis* has been reported anticonvulsant and reduction in plasma phenytoin levels.

Antidepressant Activity:[14]

The study indicates that the oral administration of methanol extract of rhizome of *Acorus calamus* possesses an antidepressant-like activity probably by modulating the central neurochemical as well as HPA (Hypothalamic-pituitary-adrenal)axis in response to stress induced by FST (Forced swimming test). It is concluded that *Embelia ribes* and its major bioactive compound, embelin, have therapeutic potential for managing depression. The study shows that the methanolic extract of *Achyranthes aspera* has potential to reduce the immobility time revealing its significant antidepressant like effects.

Antiepileptic Activity:[15]

Results indicates that aqueous extract of *Acorus calamus* has protective effect against MES (Maximal electrical shock), but not against PTZ (pentylentetrazole) induced seizures.

Antipsychotic Activity:[16]

The results in SLA showed that the

hydro alcoholic extract of the stems of *Tinospora cordifolia* at a dose level of 250 mg/kg showed no significant antipsychotic activity in amphetamine induced hyperactivity in mice when compared to the control.

Anti-Stress Activity:[17]

The anti-stress activity of fruits of *Terminalia chebula* extract of may be due to the presence of flavonoids, glycosides, tannins and polyphenols.

Immunomodulatory activity:[18]

The study has been reported that the methanol extract of *Hedychium spicatum* possess a potential of significant immunomodulatory activity.

Antioxidant Activity:[19]

Ethanol extract of *Acorus calamus* significantly protects against liver injuries as well as oxidative stress. The reduced levels of antioxidant enzymes in acetaminophen treated rats were significantly increased by treatment with ethanol extract of *Acorus calamus*. The study has been reported that the antioxidant activity of sedimented extract of *Tinospora cordifolia*. The study indicates the antioxidant activity of *Convolvulus pluricaulis* in rat brain mitochondria against oxidative damage induced by gamma radiation and photosensitization. The study shows that the significant antioxidant activity of ethanol extract of *Terminalia chebula* fruit could have scavenged the superoxide and hydroxyl radicals generated after myocardial ischemia and thus protects the myocardium from injury. The study indicate that the antioxidant activity of the crude extract of *Terminalia chebula* was higher than that of ascorbic acid and shows that the percent inhibition of 10 µg/ml of *Terminalia chebula* extract was 71.56%, which is comparable with the standard antioxidant activity of ascorbic acid (57.0%).

The methanol and aqueous extracts of *Hedychium spicatum* rhizome shows strong antioxidant activity. The study shows that the aqueous and *methanolic* extracts of *Achyranthes aspera* leaves contain a variety of phytochemical compounds, which can effectively prevent free radical mediated cell damage by free radicals scavenging activity and thus can be used as a potent source of natural antioxidant compounds.

CONCLUSION:

A critical analysis of all available facts suggest very prominently that *Swarna Bhasma* is a wonder drug of Ayurveda which may be calibrated on parameters of contemporary science as researchers are adding new substantiated vision in case of Gold compounds all across globe in service of humanity. Learning and memory are the most exclusive and basic functions of the brain. Synaptic plasticity is thought to be crucial for information processing in the brain and underlies the processes of learning and memory. Honey has an appreciable nutritional value. Raw honey possesses anxiolytic, antinociceptive, anticonvulsant, and antidepressant effects and improves the oxidative status of the brain. *Vachadi Ghrita* possess a tremendous pharmacological and therapeutic potential. The reason behind the use of these ingredients of *Vachadi Ghrita* is justified from the research findings of various experimental studies on both human beings and animals. *Vachadi Ghrita* and its ingredients are proved to possess Nootropic, Anticonvulsant, Antidepressant, Antiepileptic, Antipsychotic, Antistress, Antioxidant, Immunomodulatory, Anticancer, Cardioprotective, Hepatoprotective, and many other therapeutic uses which are still to be explored.

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