

Journal of **Ayurveda and Integrated Medical Sciences**

www.jaims.in



An International Journal for Researches in Ayurveda and Allied Sciences



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Journal of

Ayurveda and Integrated Medical Sciences

REVIEW ARTICLE

March 2024

Significance of Swarnaprashana in Boosting Immunity

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ABSTRACT

Administration of 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 *Medha* (intellect), *Agni* (digestion and metabolism), *Bala* (physical strength), *Ayusha* (longevity), *Mangalkarka* (Increase auspicious circumstances), *Punyam* (Virtue), *Vrushya* (Fertility) *Grahabadhanashaka* or *Grahapaham* (Protection from piritis & microorganisms) and act as a immuno-modulator. There are various formulations of gold along with herbal drugs explained by different *Acharya* for prolonged usage in children. The primary sources of *Swarnaprashana* in children are found in two classical Ayurvedic texts: *Jatakarma Samskara* (newborn care) and *Lehana* (supplementary feeding). The age and method of administration, benefits and dosage as per various classical textbooks of *Ayurveda* are discussed here along with the reports of related scientific studies. *Ayurveda* recommends only purified and processed form of gold for internal administration.

Key words: Swarnaprashan, Children, Ayurveda, Immuno-modulator

INTRODUCTION

Swarnaprashana is one of the 16 Essential Samskara (Regimes) described for children in Ayurveda where prevention has more priority than care and protection of health. In today's world of population adulterated and chemically treated food and drinks, stressful lifestyle, electronic distractions, climate changes. It is very important for parents to focus on improving Immunity in Children.

Humanity has understood for thousands of years how

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Submission Date: 16/01/2024 Accepted Date: 24/02/2024
Access this article online

Quick Response Code

Website: www.jaims.in

DOI: 10.21760/jaims.9.3.15

to use metals and minerals. As the most valuable metal, gold has been used to create statues of gods, decorations, currencies, and other items all throughout the world. It is one of the oldest metals and is even used to treat and prevent diseases. The first mention of *Hiranya* (synonym for *Swarna*) in Vedic writings dates back to the prehistoric period, indicating its early understanding among Indians.^[1]

An ancient Indian text on rectitude called *Manusmriti* states that a *Dwija* (brahmin) must undertake a purification ceremony called *Samskara*, similar to *Jatakarma* (birth processes) and *Chudakarana* (ceremony of tonsure) to remove contaminants that may have come from the sperm and ovum or from the fetus's time inside the womb. Here, *Jatakarma Samskara* (newborn care) is told as a purification procedure, in which soon after cutting the umbilical cord the baby is made to lick the mixture of gold, honey, and ghee by *chanting* Mantra (spiritual hymns).^[2]

Several references of gold on its therapeutic properties are explained in Ayurveda. Gold is explained as one among the *Sapta Loha* [3] (seven metals). Gold falls

under the category of *Shuddha Loha*,^[4] or pure metal, which is considered to have protective as well as preventive properties. Because of its *Rasayana* and *Vajikarana*^[5] qualities, gold is recommended for internal use even before to conception in order to conceive a healthy child. It is utilized in *Pumsavana Karma* after conception^[6] (procedure done to get the desired sex of the baby and for the proper intra-uterine growth and development of the fetus). Gold is said to have a significant part in *Lehana* (supplementary feeds)^[7] and *Jatakarma Samskara*^[8,9,10] after birth.

As the child gets older, giving gold either by itself or in combination with different herbal medications is advised to obtain greater *Agni* (digestive power and metabolism), *Bala* (physical strength and immunity), *Medha* (intellect), *Varna* (color and complexion), *Ayu* (lifespan)^[8,9] etc.

Ayurvedic literature clearly state that gold, in whatever form, should only be used as a last resort after thorough cleansing; otherwise, difficulties could arise that could even be fatal.^[3,4] There is also a thorough explanation of the kind of gold to be used, how the various forms are administered, their advantages, and the therapeutic indications.^[3]

METHODS

Lehana describes the administration of different herbal medications, ghee mixtures, and gold alone as supplemental meals with specific indications. The term Swarnaprashana, which refers to the management of gold, was first used by Acharya Kashyapa. According to a special recipe, gold should be triturated with water, honey, and ghee on a clean stone facing east, and the Shishu (baby)^[11] should lick the mixture equally.

The following are the particular advantages associated with *Swarnaprashana:*^[7]

- Medha Agni Bala Vardhanam (improvement of intellect, digestion, metabolism, immunity, and physical strength)
- Ayushyam (promoting lifespan)
- Mangalam (auspicious)
- Punyam (righteous)

- Vrushyam (aphrodisiac)
- Varnyam (enhancement of color and complexion)
- Grahapaham (protection from evil spirits and microorganisms).

The following are the particular advantages associated with *Swarnaprashana* according to duration:

- The infant will become Parama Medhavi (highly intelligent) and Vyadhibhir Na Cha Drusyate (will not be affected by any disease) if the medication is given for a month.
- The infant will become Srutadhara (will be able to remember the things, which are just heard)^[7] if the medication is given for six months.

These benefits all point to the improvement of all favourable conditions necessary for a child's healthy growth and development, which is thought to occur quickly during *Shaishavavastha* (infancy).

According to Acharya Sushruta, one of the Jatakarma Samskara's processes is administering Swarna as a single dose during the newborn care process, along with honey and ghee. He explained the reasoning for this approach, stating that during the first four days following delivery, there won't be enough breast milk secreted and that these measures are essential to the baby's nutritional and preventative needs.^[8] Acharya Vagbhata suggests giving a baby a mixture of herbal remedies on a spoon shaped like a holy banyan tree leaf made of gold to increase Medha (intellect).^[9] Administration of Swarna along with other herbs is also mentioned by Acharya Vagbhata in Jatakarma Samskara.^[10]

Administration

Jatakarma Samskara states that one of the new baby care methods is to provide Swarna shortly after birth. In Lehana it should be administered in Shishu. Swarna should be administered for a year along with other herbs like Shankhapushpi (Convolvulus pluricaulis Choisy), Kushtha (Saussurea lapa Clarke), Vacha (Acorus calamus L.) etc, together with honey and ghee, according to Acharya Sushruta. [12] The name Kumara is also used to refer to a youngster in the age group

where the reproductive system has not yet fully developed. [13] Swarna should be taken with honey and ghee, according to all of the texts listed above.

Acharya Vagbhata recommends combining gold and herbal drugs to achieve Ayu, Medha, Lakshmi (wealth), and Kama (sensual enjoyment). These combinations include Shankhapushpi (Convolvulus pluricaulis Choisy), Vacha (Acorus calamus Linn.), Padma Kinjalka (stamen of Nelumbo nucifera Gaertn.), and Vidari (Pueraria tuberose DC.). [10] Swarna administration in newborns is also mentioned in Rasaratna Samuchaya, [4] which is identical to the references provided above. There is no fixed date or time for Swarnaprashana in children.

Dosage

Acharya Kashyapa did not specify the dosage for Swarnaprashana. However, he has given children a broad dosage based on their age since birth.

Additional references for the daily dose of *Swarna Bhasma* from various sources are provided below:

- 1/4 –1/8 Ratti (15–30 mg) Swarna Bhasma.^[3]
- 2 Gunja (250 mg).^[4]
- 1 Gunja (125 mg)/As per age.^[8]
- 1 Harenu.^[9]
- 1/32 Ratti (3.9 mg).^[14]
- 15.5–62.5 mg of Swarna Bhasma.^[15]

Using these adult dosages as reference standards, dosage in children can be calculated.^[16]

Forms of Swarna

Ayurvedic texts specify distinct types of Swarna for internal administration, including Patala/Mandala (leaf/foil), Churna (powder), and Bhasma (ash).^[3]

Essential Safety Measures

Acharya recognized the negative effects of impure gold, as evidenced by his description of Swarna's Shodhana (purification). Administering Swarna without proper processing can harm an individual's happiness, potency, and power, leading to a variety of

ailments.^[4] Using impure *Swarna* might lead to mental disorders and possibly death.^[3]

DISCUSSION

Acharya Kashyapa coined the term Swarnaprashana.^[7] By considering various references it can be said that the term Swarnaprashana signifies the administration of gold alone or along with other herbs in a Leha/Prasha form. He describes Swarnaprashana in the context of Lehana and recommended for healthy children with compromised breastfeeding or modest metabolic issues. Lehana is contraindicated in seriously ill children and also on daily basis.^[7]

Swarnaprashana benefits all children by promoting nutrition, metabolism, growth, physical strength, and immunity. It is the only type of gold preparation described with its specific benefits according to the duration of administration. Swarnaprashana alone can be continued for a period of 1 or 6 months to get its specific benefits in children as stated by Acharya Kashyapa.

In *Lehadhyaya* of *Kashyapa Samhita*, the first mentioned formulation is *Swarnaprashana*.

Based on the indications, Shaishava Avastha is the appropriate time to start. Acharya Kashyapa, thousands of years ago, recognized gold's physiological importance and included it as a valuable metal for medicinal usage. Gold may have a specific effect on children of that age range, as evidenced by the following studies. A study analysed trace elements, including gold, in both the human placenta and infant liver at delivery. [17] A trace elements like zinc, copper and gold were measured in the hair of newborn infants. [18] A pharmco-clinical study on neonates found that the Madhu-Ghrita-Swarna-Vacha combination had a significant effect on humoral anti-body formation and the immune system. This was demonstrated by an increase in total proteins and serum IgG levels.[19]

According to *Ayurvedic* literature, infancy is characterized by growth spurts that last until the age of 16. According to *Acharya Charaka*, the "Vivardhamana Dhatu Avastha" period occurs

between the ages of 16 and 30 and is characterized by growth and development. According to him, this period comes under Balyavastha (childhood).[20] Gold administration is recommended for newborn care (Jatakarma Samskara) up to one year and in Kumara. The suggested age range for administering gold raises questions about the benefits of Swarnaprashana in children. Swarnaprashana benefits children from infancy to adulthood through various actions that affect their growth and development. The age of administration should be determined by the expected effect on the body. Based on the references provided, it is possible that this noble metal promotes health on numerous levels, including intelligence, metabolism, immunity, physical strength, fertility, and complexion, etc.

As a general tonic, it can be given to people of any age. As an immuno-modulator, it can be offered to children as early as one year old, when their immune systems are most vulnerable to infections due to immature immune system. Gold's immune-boosting effects are supported by the following studies. *Swarna Bhasma* treatment improved immunological responses, both specific and nonspecific. It also had a stimulatory effect on peritoneal macrophages, which may be helpful to fight against infections. [21,22]

Adolescence marks the development of the reproductive system, with the emergence of secondary sexual characteristics. This could be the right period to get the benefit of *Swarnaprashana* as a fertility enhancer.

A study identified gold in human endometrium and decidua while examining trace elements for cyclic fluctuations, particularly during pregnancy. The reported levels of gold were slightly lower around midcycle than at other stages of the cycle. [23] In male reproductive system, gold was measured in semen and reported that it is the richest source of gold reported in biological materials. [24] A study found that gold chloride has a considerable stimulatory effect on female reproductive activity in immature rats. [25]

Swarnaprashana can improve intelligence when taken from birth for a period of 1 or 6 months, as per the

tradition. A study indicated that colloidal gold improved cognitive performance (measured by IQ scores).^[26] According to Acharya Kashyapa, Kanaka^[7] (a synonym for gold) was triturated with water, honey, and ghee. At the time, gold was available in pure form and could be supplied directly by rubbing on a stone to obtain microparticles. The advancement pharmacological technologies in Ayurveda, such as Rasasastra (metallurgy), may have led to the mention of new types of Swarna, including Bhasma. Any form of gold, which is having better bioavailability should be the first choice for internal administration. The bioavailability of all the forms of gold is yet to be established. A few related study reports are cited below. Swarna Bhasma contains gold nanoparticles with a globular shape and an average size of 56-57 nm.[27] Swarna Bhasma contains gold nanoparticles with 28-35 nm crystallite size and is 90% pure gold, according to a blood compatibility study. [28] Another study found that colloidal gold uptake gastrointestinal tract is dependent on particle size that is, smaller particles cross the gastrointestinal tract more readily.[29]

In children, even minor errors in drug administration can have catastrophic consequences due to their sensitive body systems and rapid growth. *Acharya* had a very clear understanding of the importance of refining *Swarna* before internal administration. Gold can have negative impacts if not processed properly, as highlighted by experts. When administering pure gold or *Bhasma*, appropriate procedures should be followed, including adequate purification and combustion. The particles of *Swarna Bhasma* were reported as non-cytotoxic. A study on the long-term toxicity of *Swarnabindu Prashana* found no cytotoxicity. [30]

There is no set day or time for administering *Swarnaprashana*. *Acharya Kashyapa* recommends facing east while preparing *Swarnaprashana*. In *Rasayana*^[5] and *Pumsavana Karma*,^[6] *Acharya Sushruta* and *Charaka*, respectively discuss the use of *Swarna* on *Pushya Nakshatra* (a star in Hindu calendar). *Swarnaprashana* is commonly performed on *Pushya Nakshatra*, which is believed to be an

auspicious day for administering medication due to its nourishing effects. According to Acharya Sushruta and Charaka, Swarna is used on Pushya Nakshatra in Rasayana and Pumsavana Karma.^[31]

CONCLUSION

Swarnaprashana does not include administering a certain type of gold on a specified day or time. The term "gold administration" refers to the use of pure gold or gold in combination with herbs. The form of gold should be selected based on criteria such as greater bioavailability, no adverse effects, easier preparation and administration, which should be standardized by scientific investigations. Imprecise usage in terms of dose, duration, and condition will definitely generate adverse effects in the body, especially in children. The benefits of Swarnaprashana in children, as described by Acharya Kashyapa and others, will be researched using experimental and clinical models to establish previously unsupported facts.

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How to cite this article: Sahil Kumar, Minakshi. Significance of Swarnaprashana in Boosting Immunity. J Ayurveda Integr Med Sci 2024;3:109-114. http://dx.doi.org/10.21760/jaims.9.3.15

Source of Support: Nil, **Conflict of Interest:** None declared.

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