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## Review Article

### A Systemic Review on Swarnaprashana's Effect on Child Health

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#### Abstract:

"Swarnaprashana" is a specific Ayurvedic treatment that involves using technique on kids. Acharya Kashyapa mentioned this practice thousands of years ago. It is made abundantly evident that giving children Swarna (gold) can enhance their Medha, Agni, metabolism, strength, immunity, complexion, and longevity. Gold has been around for a while and comes in several forms. Children's Swarnaprashana is frequently linked to two Ayurvedic principles: Jatakarma Samskara (child care) and Lehana (additional nourishment). This study aims to assess previous research that could help dispel some common misconceptions about the subject. Here are discussed age and methods of application, advantages and dosages, as well as accounts of scientific investigations from several old Ayurvedic sources. This review demonstrates that Swarnaprashana has multiple benefits, notably enhanced immunity, greater digestion and metabolism, enhanced IQ, and prevention of illnesses. For internal ingestion, only pure and treated gold is advised by Ayurveda. Based on the child's health services, one can ascertain the age at which Swarnaprashana would be conducted and this duration.

**Keywords:** Immunomodulators, children, Ayurveda, and Swarnaprashana

#### Introduction:

Gold, also known as swarna, is considered a desirable metal and is used worldwide for jewelry, currencies, and deity idols. The Vedic writings refer to early Indian knowledge as Hiranya, which means Swarna, and this was how it was first used in prehistoric times<sup>[1]</sup>. According to the ancient Indian literature Manusmriti; Bija which is present in both sperm and eggs and also comes from the fetus in the womb, is eliminated from Dwija (Brahmin) through Samskara (purification) procedures like Jatakarma (birth process) and Chudakarana (head shaving rite). Here, Jatakarma Samskara (baby care) is viewed as a purifying process in which the child chants a, Mantra (spiritual sound), and licks a mixture of Swarna (gold) and Madhu after the umbilical chord is cut<sup>[2]</sup>. Ayurveda has incorporated several references to gold's therapeutic qualities and application in a range of ailments. Gold denotes a Sapta Loha member<sup>[3]</sup>. It is regarded as pure metal, or Shuddha Loha<sup>[4]</sup>, and is thought to have protective qualities. Given that gold possesses the revitalizing and aphrodisiac qualities of Rasayana and Vajikarana<sup>[5]</sup>. It is utilized for Pumsavana Karma<sup>[6]</sup>, which is post-pregnancy surgery performed to address the demands of the kid and the growth and development of the baby. Gold is believed to have a significant role following birth through Lehana (additional nourishment) and Jatakarma Samskara. Giving gold alone or in combination with other herbs is also advised as the kid gets older in order to support the development of Agni (digestive and metabolic energy), Bala (strength and immunity), Medha (intelligence), Varna (color and complexion), and Ayu (lifespan) among other qualities. When Arishta Lakshana, or death signals, are noticed, gold exhibits its protective qualities even on the deathbed<sup>[7,8,9,10]</sup>. It is explicitly stated in Ayurvedic writings that internal use of gold should only occur after through Sodhana (cleaning).

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The many forms of gold utilized, their various management techniques, advantages, and treatments are all thoroughly described.

### Method

*Lehana* describes the administration of certain herbal remedies as supplementary feeds, with specific indications mentioned. These drugs include *Ghrita*, *Madhu*, and *Swarna* (gold). *Swarnaprashana* is a phrase for gold administration that was coined by Acharya Kashyapa. According to a unique method that has been explained, gold should be triturated with water, honey, and ghee on a clean stone facing east, and the *Shishu* (infant)<sup>[11]</sup> should lick the mixture equally.

The following are *Swarnaprashana's* particular advantages<sup>[7]</sup>.

- ✓ Enhancement of intelligence, digestion, metabolism, immunity, and physical strength is known as *Medha Agni Bala Vardhanam*.
- ✓ *Ayushyam* (extending life)
- ✓ *Mangalam* (auspicious)
- ✓ *Punyam* (righteous)
- ✓ *Varnyam* (color and complexion enhancement)
- ✓ *Grahapaham* (defense against microbes and evil spirits).

The particular advantages of *Swarnaprashana* have been listed based on how long it is administered, including:

1. If given for a month, the infant will develop into a *Vyadhibhir Na Cha Drusyate* (illness-free) and *Parama Medhavi* (very intelligent).
2. The baby will become *Srutadhara* (able to recall what they have just heard) if the medication is given for six months.

Acharya Sushruta mentions giving *Swarna* (gold) as a single dose at birth as part of the *Jatakarma Samskara* regimen for newborn care, 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 supporting the baby's nutritional and preventative needs<sup>[8]</sup>. To increase *Medha* (intellect), Acharya Vagbhata suggests giving a newborn a mixture of herbal medicines in a spoon shaped like a leaf from the sacred banyan tree, made entirely of gold as well as acharya Vagbhata states that *Swarna* (gold) administration in addition to other herbs in *Jatakarma samskar*<sup>[9,10]</sup>.

### Administration

*Swarna* (gold) is recommended to be given as soon as possible after birth as part of the newborn care protocol in

*Jatakarma Samskara*. He suggests consuming it for a year together with other herbs like ghee and honey. The term "*Kumara*" is also used in the similar way and refers to the stage of childhood that is not yet fully developed for reproduction. It is said in all of the mentioned sources that *Swarna* (gold) should be consumed with oil and honey.

Acharya Vagbhata provides a unique blend of herbs that are essential for people seeking *Ayu*, *Medha*, *Lakshmi* (wealth), and *Kama* (fun) respectively, *Padma Kinjalka* (*Nelumbo nucifera* Gaertn.) and *Vidari* (*Pueraria tuberosa* DC.). *Shankhapushpi* (*Convolvulus pluricaulis* Choisy), *Vacha* (*Acorus calamus* Linn.), and *Swarna* (gold) are among them<sup>[10]</sup>. *Rasaratna Samuchaya* book also expresses opinions regarding the use of *Swarna* (gold) for newborns. Child *Swarnaprashana* is mentioned without specifying a day or time.

### Dosage

The dosage of *Swarnaprashana* was not mentioned by Acharya Kashyapa. However, children are administered a variety of doses based on their age from birth. *Swarnaprashana* dose can be ascertained using the same technique. Some of the daily dosages of *Swarna Bhasma*, gathered from different sources, are listed below:

- ✓ *Swarna Bhasma* 1/4<sup>th</sup>–1/8<sup>th</sup> *Ratti* (15–30 mg)
- ✓ 2 *Gunja* (250 mg)
- ✓ 1 *Gunja* (125 mg) / As per age
- ✓ 1 *Harenu*
- ✓ 1/32 *Ratti* (3.9 mg)
- ✓ *Swarna Bhasma* (15.5–62.5 mg).

Children's dosages can be computed by using these adult dosages as a reference<sup>[12]</sup>.

### Forms of Swarna

Ayurvedic classics refer to particular preparations of *Swarna* (gold) for internal use, including *Bhasma* (ash), *Churna* (powder), and *Patala/Mandala* (leaf/foil).

### Precautions for Safety

It is clear from the discussion of *Shodhana* (purification) of *Swarna* (gold) in particular that the Acharyas were aware of all the grave negative consequences that can arise from administering *Swarna* (gold) in an impure form. According to referenced sources, administering *Swarna* (gold) without the proper processing can damage an individual's potency, vigor, and happiness and cause a number of ailments to manifest. *Swarna* (gold) might potentially be fatal if taken in an impure form and cause mental disturbances.

## Discussion

The term *Swarnaprashana* was first used by Acharya Kashyapa. Taking into account several sources, it can be concluded that *Swarnaprashana* refers to the administration of gold either by itself or in combination with other herbs in a *Leha/Prasha* form. He talks about *Swarnaprashana* in relation to *Lehana*. Children who are healthy but have difficulty nursing or have mild metabolic functioning issues may benefit from using *Lehana*. When a child is very sick, it should not be administered. All children can receive *Swarnaprashana* since it affects their nutrition, metabolism, growth and development, immunity, and physical strength. As a time management system, it is the only *Swarna*(gold) preparation that highlights its special advantages. However, *Swarnaprashana* alone might be administered for one or six months to achieve certain outcomes in children, according to Acharya Kashyapa. Subsequent investigation might rebuild *Swarnaprashana*'s earlier findings for his own era. *Swarnaprashana* is the first phrase that appears in the *Kashyapa Samhitha's Lehadhyaya*. *Balyavastha* or childhood is a wonderful period to begin this, according to this doctrine. Acharya Kashyapa likely recognized the importance of *Swarna*(gold) as a component of the human body thousands of years ago, which is why he recorded it as a valuable metal for therapeutic uses. According to the study below, some of the unique qualities of *Swarna* (gold) that are observed in kids this age are also responsible for this clarity<sup>[13, 14]</sup>. The combination of *Madhu*, *Ghrita*, *Swarna*, and *Vacha* shown substantial effects on humoral antibody production and raised lean body weight through an increase in total protein, according to a clinical research conducted on the medicine in babies<sup>[15]</sup>. Ayurvedic scriptures basically state that infancy is a growth surge that lasts till the age of sixteen. The "*Vivardhamana Dhatu Avastha*" period, which Acharya Charaka describes as lasting between 16 and 30 years, is when growth and progress are most noticeable. He claims that this time frame is part of *Balyavastha* or childhood<sup>[16]</sup>. When caring for infants under one year old (*Jatakarma Samskara*) and *Kumara*, gold is advised. The benefits of *Swarnaprashana* in youngsters are usually called into doubt when there is such a wide age range for gold consumption. One could argue that *Swarnaprashana*'s advantages can be reaped from childhood to maturity through a variety of practices that impact a child's development. The anticipated effect on the body should determine the appropriate age for administration. Taking into account all of the previously mentioned sources, it can be concluded that this noble metal may work on several levels, such as promoting overall health or acting specifically to improve immunity, metabolism, physical strength, intelligence, fertility, complexion, and so on.

It can be given to infants as early as possible for its immunomodulatory benefits, since the first year of life is thought to be the most susceptible period for infections because of undeveloped immunological system. If there isn't a major illness, it can even be given to people who are immune compromised. The following scientific evidence supports the involvement of gold in the immune system. According to pharmacological research, *Swarna Bhasma* treated mice produced both specific and non-specific antibodies with different qualities. Additionally, it stimulates peritoneal macrophages, which aid in the defense against infection<sup>[17, 18]</sup>. As an adult, traits specific to the second sex appear, which sets the stage for reproduction. Perhaps now is the ideal time to take advantage of *Swarnaprashana*'s fertility boosting properties. Studies that measured human endometrium and decidua and examined changes, including changes that take place during pregnancy, have revealed warmth in these tissues. Around the middle of the cycle, the reported gold levels were marginally lower than they were at other points<sup>[19]</sup>. Semen has been evaluated for gold content in the male reproductive system and is the richest source of gold found in biological materials<sup>[20]</sup>. According to a different study, gold chloride significantly stimulates female reproductive activity in young rats<sup>[21]</sup>. To develop wise *Swarnaprashana* can be practiced from birth, particularly for the lengthy duration of one or six months as described in the *Samhita*. According to one study, IQ scores indicated an increase in intelligence when exposed to colloidal gold<sup>[22]</sup>. Selecting the appropriate *Swarna* (gold) might be challenging because there are numerous varieties described. *Kanaka* (gold)<sup>[23]</sup> is ground with water, honey, and ghee, according to Acharya Kashyapa. Based on the fact that gold was known to exist in pure form at the time, the theory behind this might be that gold objects might be directly utilized to obtain energy by rubbing them against a stone or ball. Later on, further types of *Swarna*, particularly *Bhasma*, were referenced, most likely as a result of medical advancements such *Rasasastra* (Metallurgy), a branch of ayurveda. For internal application, gold with high bioavailability need to be the top option. No gold's bioavailability has been established. The list of pertinent research articles is below. According to *Swarna Bhasma*, there were discovered gold nanoparticles having 56–57 nm-sized gold crystals on average. *Swarna Bhasma* was discovered to have 90% pure gold nanoparticles with a crystallite size of 28–35 nm in a related blood study<sup>[24]</sup>. According to a different study, the gastrointestinal tract's ability to absorb colloidal gold is size-dependent, suggesting that smaller particles can pass through it more readily<sup>[25]</sup>. Given that children's bodies are still developing at a quick rate and their strength, it is evident that even the smallest attention to their care might have fatal repercussions.

Acharya is well aware of the significance of arriving at *Swarna* (gold) prior to internal control. For this reason, they explicitly state that using *Swarna* (gold) improperly can have harmful effects. Depending on the form, the right care should be given; for example, *Bhasma* needs to be adequately cleansed if pure gold is to be utilized and it is to be burned and cleaned. Products from *Swarna Bhasma* are said to be non-cytotoxic<sup>[26]</sup>. No cytotoxicity was found in a study on the toxicity of *Swarnabindu prashana*<sup>[27]</sup>. The practice of *Swarnabindu prashana* has no set day or time. According to Acharya Kashyapa, one should face east in order to get ready for *Swarnaprashana*<sup>[28]</sup>. Nowadays, *Swarnaprashana* is only performed on *Pushya Nakshatra* day, presumably because taking any medicine is considered fortunate because of its positive effects. However, children of all ages using the medicine once a month will not experience any of the benefits listed in the classics without appropriate therapy. This practice may become clearer with further scientific investigation in this area.

### Conclusion

It is not the intention of *Swarnaprashana* to keep a specific temperature for a day or longer. Rather, the word refers to the administration of either pure gold alone or different forms of gold combined with different herbs. Scientific research should serve as a model for the research, and the selection of dosage forms should be based on qualities such as good bioavailability, no adverse effects, and convenience of preparation and administration. As mentioned by many Acharya, in order to fill up the gaps left by the paucity of supporting data, the impact of *Swarnaprashana* in children should be studied using a variety of experimental models and at the clinical level. There are several advantages of *Swarnaprashana* for kids. To put it briefly, *Swarnaprashana* is a good health program for children.

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