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# Evaluation of effect of Suvarnprashanadi Kalpa Vyadhikshamatva of infants aged 0-12 months - A Pilot study

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# ABSTRACT

Ayurveda is a science of life and Kaumarbhritya is an essential branch of Ashtanga Ayurveda that relates with child. Infant is early phase of life staring from birth to 12 months, has low immunity. Vaccines are meant for specific immunity but lacking the protection against various pathogens through nonspecific immunity. Ayurveda classics i.e., Charaka Samhita, Sushruta Samhita, Kashayapa Samhita has proposed some interventions to deal with infantile immunity. The present study is aimed at infant's wellbeing and number of major and minor infections through infantile period. This pilot study showed no major infections, no adverse effects of medicines in infant.

Key words: Vyadhikshamatva, Suvarnaprashana, Balquti, Dhoopana, Kaumarbhritya, Balroga, Kashyapa, immunity

#### **INTRODUCTION**

Kaumarbhritya is a branch of Ashtanga Ayurveda that deals with care of child health and care of women health. The main and ancient script available of Kaumarbhritya today, is Kashyapa Samhita which has core focus on the health issues regarding child health. It is described in Kashyapa Samhita in Lehadhyaya that Suvarnaprashana helps in prevention of diseases, helps in well being of child through Agni, Bala enhancement.

आमथ्य मध्सर्पिभ्याम लेहयेत् कनकं शिश्म् ॥ सुवर्णप्राशनं ह्येतन्मेधाग्निबलवर्धनम्।

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आयुष्यं मङ्गलं पुण्यं वृष्यं वर्ण्यम ग्रहापहम् ॥ मासात् परममेधावी व्याधिभिर्न च घृष्यते । षड्भिर्मासैः श्रुतधरः सुवर्णप्राशनाद्भवेत् ॥ (का.सं.स्.लेहाध्याय)<sup>[1]</sup>

Kashyapacharya also described Dhoopa Chikitsa for various diseases in *Dhoopa Kalpadhyaya*. The available literature is given in *Dhoopa Kalpadhya*. On observing through it, it is known that *Dhoopa Chikitsa* is useful in developmental, Agantuk etiology (Pishach, Yaksh, Gandharv, Bhoot, Skanda, Rakshas, Revati like Grah) diseases and all types of diseases. So, it could be considered that Dhoopana is useful in decreasing load of Angantuka etiology (Grahas).[2]

For the many years in past, as an indigenous trend, every experienced grandmother/ caretaker would administer some herbal medicine to an ill child in house which is collectively known as Balguti which contains number of herbal drugs such as Ativisha, Bibhitaki, Haritaki, Yashtimadhu, Avartani, Mayaphala, Bal Haritaki, Karkatshrungi, Vatam, Ashwagandha, and Sita. These are regularly given to infants. Some ingredient herbs such as Latakaranja, Kutaja, Jayaphala, Dikemali, Haridra, Pippali, Vacha, Shunthi,

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Nagarmotha are given if an infant is having complaints. These herbal drugs act on Agni and useful in common ailments like Jwara, Chardi, Atisar, Kasa, Pratishaya and Vibandha.<sup>[3]</sup>

The newborn and infants are vulnerable to large group of diseases especially infectious diseases such meningitis, pneumonia, sepsis, soft tissue infection. infant mortality rate IMR was 28.771 deaths per 1000 live births)[4] is high in early life especially within 1st 28 days. Regardless of having multiple vaccines to prevent lethal infections, newborns and infants still dying due to nonpreventable infections, may be due to inadequate nonspecific immunity. Thus, nonspecific immunity plays an important role in infants as the specific one. Ayurveda through its various classics have mentioned different interventions to prevent infections in an infant e.g., Mukhvishodhana, Garbhajala Vamana, Ulba Parimarjana, Snana and Jatakarma Samskara.

With these treatment modalities, *Balguti*, *Swarnaprashana* and *Dhoopana* plays an important role in prevention of many infections.

#### **A**IMS

- 1. To know the effect of *Suvarna Prashanadi Kalpa* on *Vyadhikshamatva* i.e., immunity in an infant.
- 2. To know frequency of different infections in an infant with *Ayurveda* management.

# **OBJECTIVES**

- 1. Administration of *Suvarnaprashanadi Kalpa* in newborn.
- 2. Care of newborn with Ayurveda Navjat Paricharya
- 3. Observing growth of infant.
- 4. Monitoring different infections from birth to 1 year age.

#### **M**ATERIALS

1. Suvarnaprashana given with cow ghee + Suvarna Bhasma.

Dose - 5 drops,

Frequency - every month (on the day with *Pushya Nakshatra*) for 12 Months.

2. Balguti Syrup (Sugar based)

It is prepared from *Ativisha*, *Shunthi*, *Vacha*, *Pippali* and *Haritaki*. A decoction was made with 8 times water, remained half of total, and equal amount of sugar was added.

Dose - 2 drops daily at morning for 6 months.

3. *Dhoopa* stick was prepared with *Vacha*, *Musta*, *Ativisha*, *Haridra*, *Daruharidra* and *Nagakesharam*, *Churna* with *Ral*, *Kapur*, cow ghee and dung (Su.Sha.10/26 and Su. Su.38/26).<sup>[5]</sup>

Dose - the room was fumigated once morning daily for 6 months.

Pathyapathya was advised according to Ayurveda classics.

#### **METHODS**

This was a pilot study done for synopsis presented for PhD *Kaumarbhitya* under MUHS, Nashik, Maharashtra. Sample size - 12 newborns were selected.

Randomization - none

All samples were selected from IPD of G.S. Gune Ayurveda College Ahmednagar and Siddhakala Ayurveda College, Sangamner, Maharashtra. All new born were born at IPD of *Ayuveda* hospital.

Study period -1 year (1<sup>st</sup> 6 month with intervention and next 6 month for follow up).

#### **Inclusion criteria**

- 1. Newborns born at *Ayurveda* hospital with age of 48 hrs.
- 2. Newborns of all gestational age.

## **Exclusion criteria**

- 1. Newborns positive with sepsis score.
- 2. Newborns developing dangerous signs during early neonatal period.
- 3. Newborns with anatomical defect

#### **Assessment criteria**

- A) All infants were observed for occurrence of any infections by 1) fever with or without common cold (T > 100°F), 2) Diarrhea with weight loss, 3) Cough with increased RR, 4) Skin & soft tissue infection (SSTI), 5) Urinary tract infection, (6) Fever with Convulsion.
- B) Weight record.
- C) Height /length record.

Assessment day - every *Suvarnaprashana* day (approx. interval of 27-28 days).

#### **OBSERVATIONS**

#### 1. Gender wise - Table 1

| Gender | Frequency |
|--------|-----------|
| Mch    | 07        |
| Fch    | 05        |
| Total  | 12        |

#### 2. According to type of birth - Table 2

| Type of birth | Frequency |
|---------------|-----------|
| Vaginal       | 08        |
| LSCS          | 04        |
| Total         | 12        |

# 3. According to birth weight – Table 3

| Birth weight | Frequency |
|--------------|-----------|
| 1.5-2 kg     | 02        |
| 2-3 kg       | 06        |
| >3 kg        | 04        |
| Total        | 12        |

# 4. According to gestational age – Table 4

| Gestational age | Frequency |
|-----------------|-----------|
| <35 weeks       | 02        |
| 35-37 weeks     | 08        |
| >37 weeks       | 02        |
| Total           | 12        |

# 5. According to weight gain - Table 5

| Newborn             | Weight (kg) |              |             |
|---------------------|-------------|--------------|-------------|
| SN                  | at birth    | at 12 months | weight gain |
| 1.                  | 1.7         | 8.18         | 6.48        |
| 2.                  | 2.25        | 8.73         | 6.48        |
| 3.                  | 3.3         | 9.78         | 6.48        |
| 4.                  | 2.8         | 9.37         | 6.57        |
| 5.                  | 2.5         | 8.98         | 6.48        |
| 6.                  | 2.5         | 8.99         | 6.49        |
| 7.                  | 3.4         | 10.15        | 6.75        |
| 8.                  | 3.1         | 9.76         | 6.66        |
| 9.                  | 3           | 9.63         | 6.63        |
| 10.                 | 1.9         | 8.2          | 6.3         |
| 11.                 | 3.4         | 10.15        | 6.75        |
| 12.                 | 2.25        | 8.64         | 6.39        |
| Average weight gain |             | 6.54         |             |

#### 6. According to height gain - Table 6

| Newborn | Height (cm) |             |             |
|---------|-------------|-------------|-------------|
| SN      | at birth    | at 12 month | height gain |
| 1.      | 45.2        | 69.1        | 23.9        |
| 2.      | 45.1        | 69.3        | 24.2        |
| 3.      | 54          | 78.2        | 24.2        |
| 4.      | 50.2        | 74.5        | 24.3        |
| 5.      | 46.3        | 70.1        | 23.8        |
| 6.      | 47.9        | 72.3        | 24.4        |
| 7.      | 50          | 74.1        | 24.1        |
| 8.      | 48.2        | 72          | 23.8        |

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| 9.                  | 50 | 74.2 | 24.2  |
|---------------------|----|------|-------|
| 10.                 | 48 | 76.3 | 28.3  |
| 11.                 | 50 | 74   | 24    |
| 12.                 | 48 | 72.3 | 24.3  |
| Average height gain |    |      | 24.46 |

# According to occurrence of infectious disease – Table 7

| Occurrence of infection           | Major form | Milder form |
|-----------------------------------|------------|-------------|
| Fever with or without common cold | 0          | 03          |
| Diarrhoea with weight loss        | 0          | 02          |
| Cough with increased RR           | 0          | 02          |
| Skin and soft tissue infection    | 0          | 01          |
| Urinary tract infection           | 0          | 00          |
| Fever with convulsions            | 0          | 00          |

## **DISCUSSION**

For this pilot study total n=12 newborns were selected. Out of them, mch (male child) were 07 and fch (female child) were 05 in number. Among these, there were 08 newborn's born with vaginal delivery (One was with breech presentation) and 04 were born with LSCS (lower segment cesarean section) procedure. All newborns were classified according to birth weight and 02 newborns were below 2 Kg Bwt, 06 newborn in 2-3 kg Bwt and 04 newborns were more than 3 kg Bwt range. According to gestational age, 02 newborns were less than 35 weeks GA, 08 newborns were 35-37 weeks GA i.e., near team and 02 newborns use more than 37 weeks GA.

Weight and height gain is good indicator of health in children and its consistent growth indicates absence of any major illness. Many infants having inadequate immunity usually have recurrent infections and that results into disease. Diseased child usually have less appetite (*Agnimandya*), takes less diet and it impacts

immunity. Inadequate immunity again predisposes to infections. Such infection disease-immunity cycle impacts growth of an infant. <sup>[6]</sup> So it is pertinent to have record of weight and height, to correlate with health of an infant.

All infants were monitored for weight gain and height gain. The average weight gain over the 1 yr was 6.54 kg and average height gain was 24.46 cm. All infants were observed for occurrence of major and minor infections during 12 months as described in assessment criteria. Out of 12 infants, 3 were having fever with cold, 2 were having diarrhea, 2 were having dry cough and 1 infant was reported for boils on lower leg. All infants were managed on OPD basis. No infant needed indoor management. No infant have shown any adverse effect of intervention.

#### **CONCLUSION**

Charakacharya in Vimanasthana, while describing about Balyawastha said that Bala (infant) has low maturity of Bala (Asampoornabalam), less matured Sapta Dhatu (Aparipakva Dhatum, Cha.Vi.8/122).<sup>[7]</sup> Immunity in an infant right from birth is less. The cells (T+ B cells) are not well sensitized. So, Ayurveda classics described some interventions such Suvarnaprashana, Balaguti, Dhoopana to take care of immunity. This study was directed to know the effect of interventions on immunity, its adverse effects during study and also the acceptability of medicines. On completion of pilot study, all infants were shown good growth, normal development. No infant reported any adverse effect. No infant needed IPD management for infection. Hence interventions explained in Ayurvedic classics are useful in taking care of immunity of an infant.

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