

Ayurvedic Drug Doses in Children- A Literary Review**Vd. Patil Yogesh Tukaram**

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Abstract

A branch of Ayurveda which deals with the diseases of children and their treatment is Kaumarbhritya. In pediatric patients, dose fixation is a difficult job for both Ayurvedic as well as Allopathic physicians. In Any medical science, success of treatment depends upon diagnosis, selection of drug, fixation of dose and time of administration. The pediatric dosing system has been well explained by Acharya Kashyapa who is the pioneer of Ayurvedic pediatric medicine. In different treaties of Ayurveda, the Matra (Dose) of a drug has been mentioned. In ancient era, the technology was not evolved so the Ayurvedic physicians were using different Matra for different dosage forms and the dose was fixed considering the following factors such as age, Satva, Prakriti, Bala etc. This article is aimed to understand the view of ancient sages related to pediatric drug doses from different Ayurvedic classics.

Keywords: Ayurveda, Drug, Dose, Matra, Pediatrics.**Introduction**

KashyapaSamhita is the primer of Ayurvedic Pediatrics where the valuable importance is given to the branch of Kaumarbhritya. In this branch, the drug doses are described for children considering their age. The proper guidelines regarding the dose of Churna, Kalka, Kashaya, Ghrita etc. has been explained by the Acharya. While prescribing medicines for pediatric age many physicians face difficulty. As the human race started developing, the science of measurement also developed. By considering the modern and ancient dosing system, the chances taken place in dosage system can be noticed. Magadha Mana and KalingaMana were the two different methods that were used for measuring objects during the ancient times. These Manas were replaced by milligrams, grams and milliliter etc. as the period progressed. In day to day practice, even after prescribing the medicines in proper dose the physicians fail to get expected results. It may be due to negligence towards classical dose. This article aimed to understand the drug doses related to pediatric from different Ayurvedic classics.

Matra (Dose): Drug is a French word derived from 'Drogue' meaning a dry herb. According to WHO, a substance which is used to explore the physiological system or pathological states for the benefit of recipient is known as drug. Drug is a substance which when taken by an individual, affects the functioning, helps in diagnosis, prevention or treatment of a disease or relief of discomfort. Dose is the quantity of medicine to be taken. Dose of any medicine depends upon the age, weight, surface area etc. Modern medicines are given in the form of Syrup, Injections, drops, tablets.etc for easy administration. Similarly, in Ayurveda, Panchavidha, Shadvidha, SaptavidhaKashayaKalpanas are described in the different dosage forms.

Kalpana according to different Acharya:

Sr.No.	Acharya	Kalpna
1	Kashyapa	Kwath, Kalka, Phanta, Swarasa, asava, kshitkashaya, Churna
2	Sushruta	Kwath, Kalka, Phanta, Swarasa, Hima, Kshirapaka
3	Sharangadhara	Kwath, Kalka, Phanta, Swarasa, Hima
4	Charaka	Kalka Swarasa, Shita, Shrita (decoction)

Dose according to Kashyapa Samhita

Among eight branches of Ayurveda, Kaumarbhritya is placed as first branch in KashyapaSamhita. According to Kashyapa, the main cause of disease is trouble and medicine is the way of relief. Every physician must have knowledge of disease, drug and dose.

According to Kashyapa different pediatric age group dose:

Sr.No	Age	Dose
1	Immediately after birth	BadriphalaBeejatulya
2	5-10 days	Slightly increased
3	10-20 days	Equal to half Badriphala
4	1 month	Equal to One Badriphala
5	1-2 months	One and half Badriphala
6	3 months	Three Badriphala
7	4 months	Equal to Dry Amalaki fruit
8	5-6 months	Equal to wet Amalaki fruit
9	7-8 months	More than Amalaki

Ghritamatra according to Kashyapa:

For a new born baby that is in NavajataShishu, the Matra of Ghrita is told as Vidangaphalatulya (equivalent to the false black pepper fruit). The dose is increased gradually later. The dose of Ghrita can be increased uptoAmalakiphala but not more than that.

Dose according to Sushruta Samhita:

Acharya Sushruta has classified the age as Balya (Young Age), Madhya (Adult) and Vriddha (Old) and the group Balya has been further divided into Kshirada, Kshirannada and Annada.

Sr.No	Different Age Group	Matra (Dose)
1	Kshirada (upto 1 yr)	Anguliparvadvayagrahya
2	Kshirannada (1-2 yr)	Kolasthi
3	Annada (2-16yrs)	Kola Matra

Dose according to Yogaratnakar and Sharangadhara:

Mana is discussed in detail in SharangadharaSamhita. The classic has established the dose from minimal to maximum. Also the measuring dose possesses different nomenclature in the form of easily available sources such as Rajika, Sarshapa, Vidanga etc. The dose is given in simplified measures as Ratti and Masha which can be easily converted into current metric system. This is the great contribution of this Samhita in Ayurveda Mana.

Yogaratnakara has given the dose for newborn as one Vidangaphala and later on this dose should be increased as 1 Vidangaphala every month eg. 2 month 2 Vidangaphala etc.

Dose according to Sharangadhara and Yogaratnakar:

Sr.No	Age	Dose
1	1 month	1 Ratti= 125 mg
2	2 months- 1 year	Increase by 1 Ratti every month upto 12 months
3	1 year- 16 years	Increase by 1 Masha every year
4	For Kwatha	It should be given four times of above calculated dose as per age

Dose according to SushrutaSamhita:

Sr. No	Different age groups	Matra (Dose)
1	Kshirada	Anguliparvadayagrahya
2	Kshirannada	Kolasthi
3	Annada	Kola matra

Discussion

Most of the Ayurveda scholars are perplexed regarding this Mana. In ancient era the technology was not evolved, so the framework of measurement was experience based and objects in custom employ were taken as measure of weight. In Modern science different formulae like Young's Formula, Dilling's Formula etc. are in use to calculate dose according to age. The biggest query is arises in mind of physician that weight of *Vidanga/Amalaki* should be taken into account or medicine should be taken same as the shape of fruit of *Vidanga/Amalaki* etc. The exact weight cannot be assumed because *Amalaki, Kola* etc fruits have different varieties and also the weight varies with different regions and also all the fruits do not carry same weight. So only approximation could be expected with the ancient dosing system and not accuracy and with the help of own logic physician should manage doses for different patient.

Sharangadhara and Yogaratnakara guidelines are more comprehensible and acceptable as the dose mentioned in these Samhita can be easily converted into current metric system. The dose is given considering the compound formulation and commonly used *Kalpana*(formulation) are discussed with their age specific dose. This helps to counteract the uncertainty about pediatric drug doses especially for Ayurveda formulation.

In children, some specifics are given for drug administration in ayurveda system of medicine. In *KshiradaAvastha*(up to 1 year) medicine should be given to mother as child is totally dependent upon mother for nourishment so drug given to mother indirectly reach up to neonates. Now, it is the wise duty of every pediatrician to look after the nature of disease with its etiology, signs, symptoms and severity. When the disease seems to be originated from *DushtaStanya*(vitiating breast milk) or improper dietary habits of mother, medicine should be given to mother following adult dose. Eg. In *KaphadushtaStanya*(vitiating milk due to body humour), *Deepana*(Appetizer), *Pachana*(digestive), *stanyashodhaka*(Milk purifier) medicine given to mother gives relief in child's disease. Prompt treatment is needed to child only such as *UlbakaVyadhi*(equivalent to Pneumonia), Hyperpyrexia etc. In *kshirannadaAvastha*(1 to 2 years) children can eat some semisolid food and also depend on mother for nutrition. So, medicine should be given to both children and mother. In *AnnadaAvastha*(2 year to 16 years) weaning of breast milk has been done and child is capable of taking their own food so there is no need to give medicine to mother & so medicine should be given only to the child (AmbikaduttaShastri, 2013). Acharya Sushruta has specifically mentioned honey or ghee as *Sahapana*(substance which taken with drug or medicine). From this, it is clear that Acharyas were concerned about the palatability, absorption of drug and rapid action of drug. For the treatment purpose Ayurveda Classics has mentioned various factors to be considered in treatment for successful clinical practice and these factors are very important in dose fixation.

Conclusion

The knowledge is never static. Stagnation is detrimental so it has to flow continuously, discarding unacceptable things and incorporating newer concept. This revolutionized form is clearly visible in Ayurveda system of Mana. The Magadha Mana and Kalinga Mana are stepwise transformed into current metric system to make the Ayurveda knowledge of drug doses in children is easily approachable and acceptable. Acharya Kashyapa quotes that "The drug, which does not destroy the patient's strength but destroy the disease potency, should be used till complete eradication of disease." In continuation to this drug should also be selected after observing various factors like *Dosha, Agni, Bala, Vaya, Vyadhi, Kostha, Prakriti, Satmya, Desha, Kala*, etc. Dose of medicine selected for the treatment of disease should not be too excess or too low. So, a wise physician anticipating complete cure of disease should have knowledge about classical dose of medicine according to age. Neglecting either of the factors described above while prescribing a drug can hinder the treatment. So, all factors should be examined thoroughly, and treatment should be planned accordingly. Also some doses mentioned in classics seem to be higher in today's perspective. The reason behind this may be the *Bala* and *Satva* of children in ancient period were different as compared to today's generation. Research works on the Ayurveda posology, ancient and current aspects should be planned to prevail over the ambiguity.

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