

A STUDY ON ANUPANAM AND BRIEF DISCUSSION ON ITS VARIOUS TYPES

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ABSTRACT

Ayurveda the science of life mainly gives importance to *Swasthasya swasthya rakshana* and later *Aturasya roganut*. To maintain and to achieve good health, *Ayurveda* explains many concepts such as *Ahara Vidhi Vidhana*, *Sadvrutta*, *Dinacharya*, *Rtucharya* and also *Oushadha sevana*. In *Ahara vidhi vidhana* and *Oushadha sevana*, *Acharyas* have explained many methods such as intake of proper *Anupana* before or during or after the consumption of food or medicine. By the *Yukti* of *Vaidya*, a specific *Anupana* with specific *dravya* gives specific effect in specific *doshas* and *rogas* of a *rogi*. With different *Anupana* a single *Oushadha dravya* can be given in different *rogas* like *Pandu*, *Grahani*, *Arshas*, *Kasa*, *Swasa* etc., to get beneficial effects which emphasize the importance of *Anupana*. Apart from *Bhaishajya kala*, *Anupana* is the one which is necessary to be followed while prescribing a drug and now-a-days it is as such not followed. So here a brief study of *Anupana* and how it has been given importance from historical path is ruled out. There are various *Anupanas* which are used according to different conditions like *doshas*, diseases, type of medicinal preparation (*churna*, *kashaya*, *kalka* etc.) and time of taking drug. So to prescribe proper *Anupana*, a detailed review of its types is essential.

Keywords: *Anupana*, *Swasthasya*, *rakshana*, *Aturasya roganut*, *Yukti*.

INTRODUCTION

Anupana is a Vehicle or Adjuvant. Vehicle means “which carries”. It is a substance used as a medium for the administration of medicine. Adjuvant means “to aid”. It is a sub-

stance used to increase the action of principal ingredient.

A brief review of *Anupana* would help in understanding not only the concepts of the *Anupana* as a whole but also

the changing perspective about *Anupana* in modern times.

Hence it would in a nutshell, give an idea about the long path mankind has traversed in finding benefit of the usage of *Anupana*.

References of *Anupana* from various literatures are described in chronological order;

1. <i>Veda kala</i>	6. <i>Samhita kala</i>
2. <i>Upanishat kala</i>	7. <i>Sangraha kala</i>
3. <i>Purana kala</i>	8. <i>Madhya kala</i>
4. <i>Ramayana kala</i>	9. <i>sAdhunika kala</i>
5. <i>Mahabharata kala</i>	

1. *Veda Kala:*

The *Vedas* are the source of mankind's knowledge and provides comprehensive details of various scientific knowledge. The reference of the word *Anupana* is not directly available in *Vedic* period. But can be traced with the help of different aspects like *aachamana*, the *pana* which is taken for some of the regimens to cure the diseases etc.,

The concept of *aachamana* i.e., by making the palm in the form of *gokarna-akaara* and the *jala* is taken till the black gram sinks in it which has to be drink by chanting the *mantra*. In *Ayurveda Granthas* the concept of *aachamana* is explained in the context of *Dinacharya* that explains *aachamana* should be performed after bath, beginning and at the end of meals etc. So this concept can be equated to the concept of *Anupana*⁽¹⁾.

2. *Upanishat Kala:*

In the commentary on *Chandogyopanishat* the word *Anupana* is available.

3. *Purana Kala:*

In *Agni Purana*, in the context of *Danta swasthya*, *ahara dravyas* should be consumed along with *sheeta jala*. *Vishnu Purana*, it is mentioned that while consuming *ahara*, the *jala* has to be taken in between and after the food. In *Garuda Purana*, it has been mentioned that the *Sali tandula churna* taken along with *Kshira*. Some other references are tabulated below.

Table 1: Showing references of *Anupana* in different *Purana*:

Sl.No.	<i>Oushadha/ahara</i>	<i>Anupana/ Sahapana</i>	<i>Vyadhi</i>	Reference
1.	<i>Aswagandha paka</i>	<i>Ghritha</i>	<i>Vandhyatwa</i>	<i>Garuda Purana</i>
2.	<i>Vyosa</i>	<i>Kesara Ghritha</i>	<i>Vandhyatwa</i>	<i>Garuda Purana</i>
3.	<i>Salitandula churna</i>	<i>Dugdha</i>	<i>Stanyalpata</i>	<i>Garuda Purana</i>
4.	<i>Amalaki Swarasa</i>	<i>Madhu</i>	<i>Pradara</i>	<i>Garuda Purana</i>
5.	<i>Karpasa mula</i>	<i>Tandulodaka</i>	<i>Pradara</i>	<i>Garuda Purana</i>
6.	<i>Sarkara</i>	<i>Dhanyodaka</i>	<i>Pitta Vriddi</i>	<i>Brahma Vaivarta</i>
7.	<i>Ahara dravya</i>	<i>Sheeta jala</i>	<i>Danta roga</i>	<i>Agni Purana</i>

4. *Ramayana Kala:*

In *Ravanakruta Madhusheela* book there is mentioning of 84 types of *asavas*.

Same number of *asavas* which are mentioned in *Charaka Samhita* are being used as *Anupana dravya* till today.

5. Mahabharata Kala:

There is reference in *Mahabharata* which quotes that, when a *rakshasa* by the name *Baataapi* was troubling the people in the form of a *mesha*, that time *Agastya muni* swallowed that *rakshasa* along with food. After eating, *Agastya muni* felt to take *Anupana*⁽²⁾.

6. Samhita Kala:

i) Charaka Samhita -

Acharya Charaka has dealt about *Anupana* in the context *Annapanavidhi* in *Sutrasthana*. After *Krutanna varga*, in *Aharopayogi varga* the detail description of *Anupana* i.e., qualities, mode of action and selection of specific *Anupana* according to different conditions has been dealt. The action of *Anupana* is related in accordance with the *Ahara upayogita*. In another context, *Acharya* described *Anupana* for different diseased conditions like *sthoulya*, *tandra* and *alpagni* etc. If specific *Anupana* is not mentioned for a particular *dravya* or a *roga* then, one should choose *Anupana* according to *desha* and *kala*. From the lists of 84 *Asavas* and other *Peyas* like *Jala* are advised which are to be evaluated and then considered for administration.

ii) Sushruta Samhita -

Acharya Sushruta has described *Anupana* in *Anupanavarga* after the description of *Manda-Peyadi pathya kalpanas* i.e., after *krutanna varga* and before *ahara vidhi* in *Annapana vidhi adhyaya*. Here detailed description of *Anupana* i.e., different *Anupana dravyas*, superiority of the *jala* as *Anupana*, properties, contraindica-

tions, rules and regulations for *Anupanasevana* are given.

iii) Bhela Samhita –

Acharya Bhela, described *Anupana* in *Annapanavidheeya adhyaya* of *Sutrasthana*. Here explanation about different *Anupanadravyas* in detail and the properties of *Anupana* are given.

iv) Kashyapa Samhita –

Acharya Kashyapa has not explained about *Anupana* in detail. But explained some of the applications of *Anupana* like; in *Sneha adhyaya* he explained specific *Anupana dravya* for *ghritapana*, *tailapana*, *vasapana* and *majjapana*.

7. Samgraha Kala :

i) Ashtanga Samgraha –

In *Ashtanga Samgraha Anupana* is explained in detail in *Annapanavidhi adhyaya*. Here in this text the references of *Anupana* regarding, different *Anupanadravyas* for different *Doshas*, *rogas* and *ahara dravyas*, properties of *Anupana*, contraindications for *jala* as *Anupana*, rules and regulations while consuming *Anupana* are available in detail.

ii) Ashtanga Hridaya :

In *Ashtanga Hridaya* concept of *Anupana* is explained in *Matrasiteeya adhyaya*. Here in this text the references of *Anupana* regarding, different *Anupana dravya* for different *rogas* and *aharas*, *lakshanas* of *Anupana*, properties and contraindication for *jala* as *Anupana* are explained.

8. Madhya Kala:

In some of the *Madhyakaleena granthas* like *Madhava Dravyaguna* explains *Anupana* in *Anupanavidhi*, *Dravyaguna Samgraha* in *Anupanavarga*, *Kaiyyadeva Nighantu* in *Vihara varga*, *Madanapala Nighantu* in *Mishraka varga*, *Kalyanakaaraka* in *Anupanadhikara*, *Sarangadhara* in *madhyama khanda*, *Bhavaprakashha* in *prathama khanda*, *Yogaratnakara* in *Rasayanadhikara*, *Madana Vinoda* in *Mishra varga* and in *Raja Nighantu* in *Rogadi varga* we get references of *Anupana* in detail. Only in *Raja Nighantu* there is a clear explanation of classification of *Anupana* into *kramana* and *pachana* are available. *Acharya Sarangadhara* explains about *Anupana* mainly for consumption of medicines.

9. Adhunika Kala:

In some of the *Rasashastra* texts like *Bhaisajya Ratnavali*, *Rasa Tarangini*, *Rasa Jala Nidhi*, *Ananda Kanda* and *Ayurveda Prakasha* etc., have given clear explanation of *Anupana* which has been followed while administering medicines. Some of the later texts like *Anupana Manjari*, *Anupana Darpana*, *Anupana Tarangini* and *Anupana Kalpataru* have given elaborative explanation about *Anupana*.

DERIVATION

The word *ANUPANA* is derived out of two words ;

➤ (ANU + PANA)

Anu -

The word “Anu” is an “avyaya” and “upasarga vishesha”. The word anu indi-

cates the meanings like *asyaathaha*, *pashchaat*, *sadrushyam*, *lakshanam*, *bhaagaha*, *heenaha*, *sahaarthaha*, *aayaamaha*, *sameepam* and *paripaatee*⁽³⁾

The different English meanings of the word “ANU” are after, afterwards thereupon, again, further, behind, then, next, along, alongside, lengthwise, over, through, to, towards, at, according to, in order, near to, under, subordinate to, with, along with and connected with etc.

Pana -

Panam is “*Kleeba*” *linga* i.e., “*napumsaka*” *linga* which is derived out of “*paa*” *dhatu* and “*lyut*” *pratyaya*. Different English meanings of the word *Pana* are; drinking, quaffing, kissing, drinking spirituous liquors, a drinking vessel, sharpening and protection.⁽⁴⁾

Anupana -

The one which is consumed along with or after the *Bheshaja* (medicine) is *Anupana*. The term *Anupana* is formed by “*anu*” *upasarga* “*paa*” *dhatu* added by the suffix “*Lyut*” *pratyaya*.⁽⁵⁾

The dictionary meanings of *Anupana* are “a drink taken with or after medicine, a fluid vehicle in medicine”.

DEFINITION⁽⁶⁾

1. *Anupana* is defined as the one which is consumed along with or after the *bheshaja*.
2. The *vishesha peya* (specific liquid) that has to be consumed for the intake of *Oushadha* is called *Anupana*.
3. The *pana* which is taken after the intake of food is *Anupana*.

4. The *pana* which is taken in between and before is also considered as *Anupana*.
5. The one which is taken in prescribed time and in proper method is called *Anupana*.
6. The *pana* which is consumed after *oushadha* and *bhakshana* is *Anupana*.

LAKSHANA ⁽⁷⁾

Anupana should possess the properties opposite to those of the *aharas*, but at the same time should not contradict the qualities of the *dhatus*.

SYNONYMS ⁽⁸⁾

The different terms implying the meanings of *Anupana* have been mentioned in different contexts and these synonyms of *Anupana*, are tabulated below:

Anupana - Means the one which is consumed along with or after the *bhesaja*.

Vahana - Means the one which carries

Sahayogi - Means the one which brings together

Maadhyama - Means the one which acts as media or the one which is taken in the middle.

Anutarsha - Means the one which is beneficial in thirst.

Anupeya - Means the one thing which is taken along with or after food.

Anupaneeya - Means the one which is taken along with food.

Oushadhanga peya - Means the peya which is used along with medicine.

TYPES

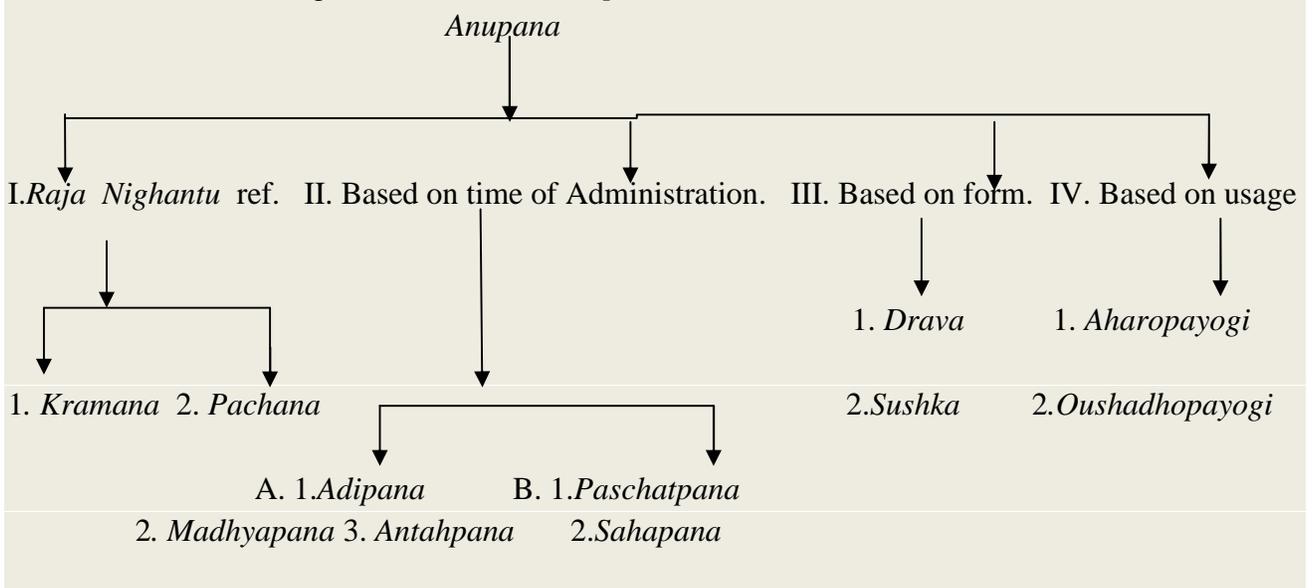
In *Ayurvedic* texts there is no direct mentioning of different types of *Anupana* except in *Raja Nighantu*, but it can be classified based on the time of administration, form and the usage.

Classification made by *Raja Nighantu* :- ⁽⁹⁾

1. *Kramana* :- That which is administered in delay i.e., surpassing the actual time or after a gap of actual time.

2. *Pachana* :- That which given in the night.

Flow Chart 1: Showing classification of *Anupana*:



II. Based on time of Administration⁽¹⁰⁾ –

A.1. *Aadipana* :- The *Anupana* to be taken prior to *bhojana* is known as *aadipana*.

Importance - It causes *krushata*.

Indication - *Sthoulya*

2. *Madhyapana*: - The *Anupana* to be taken during or in between the *bhojana* is *Madhyapana*.

Importance - It helps in maintenance of the body.

Indication - *Swasthya*.

3. *Antahpana*: - If the *pana* is taken after the *bhojana* is called *Antahpana*.

Importance - It causes *Brmhana*.

Indication - *Karshya*.

B. 1. *Pashchatpana*: - The *pana* which is taken after the consumption of any substance either food or medicine is known as *Pashchatpana*.

2. *Sahapana*: - The *pana* which is consumed along with some substances is known as *Sahapana*.

III. Based on the form -

A. *Drava Anupana* :- The *Anupana* in the liquid form.

Eg – *Jala, Ushnajala, Kshira* etc.,

B. *Sushka Anupana* :- The *Anupana* in the solid form.

Eg – *Sarkara, Sita* etc.,

IV. Based on the Usage -

A. *Aharopayogi*: - The *Anupana* in the context of *ahara sevana*.

Eg. For *Pishtanna, Sukhodaka* as *Anupana*.

B. *Oushadhopyogi*: - The *Anupana* in the context of *oushadha sevana*.

Eg. For *Snehapana, Ushnajala* as *Anupana*.

Other classification made on the basis of different *Rasa, Guna, Virya* etc., is given below:

Based on *Rasa*:

Table 3: Showing classification of *Anupana* based on *Rasa*:

SI.No.	<i>Rasa</i>	<i>Anupana</i>
1.	<i>Madhura</i>	<i>Katu, Trikatuka + Khandasava</i>
2.	<i>Amla</i>	<i>Lavana, Padmotpala + Khandasava</i>
3.	<i>Lavana</i>	<i>Amla, Surasava, Aranala</i>
4.	<i>Katu</i>	<i>Tikta, Durvaanalaveraasava</i>
5.	<i>Tikta</i>	<i>Katu, Amla, Kashaya</i>
6.	<i>Kashaya</i>	<i>Madhura, Dadimavetrasava</i>
7.	<i>Sarva rasa</i>	<i>Kshira</i>

Based on *Guna / Virya*:

Table 4: Showing classification of *Anupana* based on *Guna / Virya*:

Si. No.	<i>Guna</i>	<i>Anupana</i>
1	<i>Ushna, Pittaja vikara, Raktaja vikara and Vidaha</i>	<i>Sheeta jala</i>
2	<i>Sheeta, Vata and Kapha Vikara</i>	<i>Ushna jala</i>

DIFFERENT ANUPANA DRAVYA FOR DOSHAS

Anupanadravyas act either by *Rasa* or *Guna* or *Vipaka* or *Virya* and antagonize the vitiated *Doshas* in the body. The specific *Anu-*

panadravya against each *Doshas* is very essential to get beneficial effects. Different *Acharyas* have told different *Anupana* for different *Doshas* which are tabulated below:

Table 5: Showing different *Anupana* for *Tridosha*:

VATA					PITTA					KAPHA				
SI.No	<i>Anupana</i>	C.S	S.S	A.S	SI.No	<i>Anupana</i>	C.S	S.S	A.S	SI.No	<i>Anupana</i>	C.S	S.S	A.S
1.	<i>Snigdha</i>	+	+	-	1.	<i>Madhura</i>	+	+	-	1.	<i>Ruksha</i>	+	+	-
2.	<i>Ushna</i>	+	+	-	2.	<i>Sheeta</i>	+	+	-	2.	<i>Ushna</i>	+	+	-
3.	<i>Amlarasa</i>	-	-	+	3.	<i>Sarkarodaka</i>	-	-	+	3.	<i>Triphalodaka kshoudra</i>	-	-	+

Single Formulation or Drug with Different *Anupana*

In *Ayurveda* there are many references in which single *yoga* (formulation) or a drug is

used in different conditions based on different *Anupana*. This shows the importance of *Anupana*. Some of such references are tabulated below:

Yogaraja Guggulu :

Table 6: Showing different *Anupana dravya* for *Yogaraja Guggulu*:

SI.No.	<i>Vyadhi</i>	<i>Anupana</i>
1.	<i>Vata roga</i>	<i>Rasnadi kwatha</i>
2.	<i>Medovriddi and Kushta</i>	<i>Manjishtadi kwatha</i>
3.	<i>Sarva vrana</i>	<i>Nimba and Nirgundi Kwatha</i>

Narayana Churna:

Table 7: Showing different *Anupanadravya* for *Narayana Churna*:

SI.No	<i>Vyadhi</i>	<i>Charaka</i>	<i>Vagbhata</i>	<i>Sarangadara</i>
1.	<i>Udara</i>	-	<i>Takra</i>	<i>Ushtradugdha /Takra</i>
2.	<i>Gulma</i>	<i>Badaraambu</i>	<i>Badara kwatha</i>	<i>Badara kwatha</i>
3.	<i>Anaha</i>	<i>Sura</i>	<i>Sura</i>	-
4.	<i>Vata roga</i>	<i>Prasanna</i>	<i>Prasanna</i>	<i>Prasanna</i>
5.	<i>Malavarodha</i>	<i>Dadhi manda</i>	<i>Dadhi manda</i>	<i>Dadhi mastu</i>
6.	<i>Parikartika</i>	<i>Vrukshamla</i>	<i>Vrukshamla</i>	<i>Vrukshamla</i>
7.	<i>Arsha</i>	<i>Dadimambu</i>	<i>Dadima swarasa</i>	<i>Dadimambu</i>
8.	<i>Ajirna</i>	<i>Ushnajala</i>	<i>Sukhodaka</i>	<i>Ushnajala</i>
9.	<i>Adhmana</i>	-	-	<i>Sura</i>
10.	<i>Visha</i>	-	-	<i>Ghrita</i>

Rasa Sindhur :

Table 8: Showing different Anupanadravya for Rasa Sindhura:

SI.No	Vyadhi	Anupana
1.	Nava jwara	Tulasi, Aardraka swarasa, Tambula swarasa
2.	Jeerna jwara	Guduchi, Dhanyaka kwatha
3.	Prameha	Guduchi swarasa, Haridra kwatha
4.	Pradara	Ashoka, Bala, Lodhra kwatha
5.	Arsha	Bala, Abhaya Kwatha
6.	Apasmara	Vachaswarasa/Brahmi+Vacha+Shankhapushpi + Kushta +Ela kwatha
7.	Unmada	Kushmanda swarasa
8.	Swasa	Vibhitaki swarasa , Vasa swarasa
9.	Kamala	Darvi kwatha
10.	Pandu	Loha bhasma
11.	Mutrakrcchra	Sitopala + Ela +Shilajitu + Sheeta Kshira
12.	Ajeerna	Madhu / Mustaka kwatha
13.	Sula	Triphala kwatha
14.	Murcha	Kana churna + madhu
15.	Vamana	Bruhadela kwatha +Madhu
16.	Swayatu	Punarnava kwatha
17.	Visphota	Guduchi , Nimba, Khadira twak, Indrayava kwatha
18.	Garbhashaya roga	Kakoli churna + Narikela taila
19.	Atikalaja Prameha	Vanga bhasma + Madhu
20.	Teevra vamana	Trikatu +dhanya +Jeeraka +Madhu
21.	Bhagandara	Triphala / Vidanga kwatha
22.	Gulma	Mishreya +Bala Abhaya +Yavani churna kwatha /yavani churna /Vida lavana
23.	Vata-Kaphajanya Puratana Sirahsula	Dashamula kwatha
24.	Puratana vrana	Kantakari, Sugandhabala, Guduchi, Sunti kwatha
25.	Puratana Amavata	Guduchi, Mustaka, Satavari, Pippali, Haritaki, Vacha/Sunti kwatha
26.	Vajikaranartha	Salmali mula churna/Vidaryadi gana + kshira
27.	Dhatu vardhanartha	Abhraka bhasma +Swarna bhasma
28.	Swapna meha	Jatiphala, Lavanga, Karpura, Ahiphena churna
29.	Chirakaleena Sirahkampa	Bala kwatha

MATRA:

Matra or dose is the amount of a substance to be taken. Proper dose should be followed to get beneficial effects. The matra of Anupana for different doshas are not mentioned in any of the brihatrayee but mentioned

in later granthas. The matra that are mentioned in Dravya Guna Sangraha, Sarangadhara Samhita, Gudārtha Deepika, Deepika, Madana Vinoda and Madhava dravya guna are tabulated below:

Table 9: Showing Anupana Matra:

SI.No.	Dosha	Dravya guna Samgraha	Sarangadhara Samhita	Deepika	Gudarth Deepika	Madana Vinoda	Madhava Dravyaguna
1.	Vata	2	3	3	2	2	2
2.	Pitta	3	2	2	3	3	3
3.	Kapha	1	1	1	1	1	1

In Govinda Sena text book *Vaidyaka paribasha pradeepa*, it is said that the *Anupana* should be consumed in *Jyeshtha matra* till 8 *pala*.

ANUPANA KALA

Anupana kala and *oushadha sevana kala* influences the body both in physiological and pathological level. The time of administration depends upon the variations of *Doshas* at different time in a day.

As mentioned in the definition of *Anupana*, it is clear that *Anupana* is to be taken after or along with *bhojana* or *oushadha*.

Some other reference says it can be taken before food also.

The *Anupana* can be administered in delay i.e., by surpassing the actual time of administration. It can be given in the night.

Importance of Anupana in Chikitsa

Anupana or the adjuvant for food and medicine has its relevance and importance in *Ayurveda chikitsa*.

As the oil spreads in the water, the medicine also gets spread by the effect of *Anupana*.⁽¹¹⁾ When the medicine is administered with appropriate *Anupana*, the effect of drug gets enhanced.⁽¹²⁾ If water is not consumed after food, then the food becomes dry and produces different ailments in the body. At the same time, consumption of proper *Anupana*

after food does proper digestion even if the quantity of food consumed is excess in quantity and quality (*Guru, Adhika matra yukta anna*). By the help of *Anupana* the properties of the *Oushadha* (medicine) will increase and helps to cure the disease.⁽¹³⁾

Anupana Concepts in Western System of Medicine

In Western system of medicine : The terms which can be taken to understand the concepts of *Anupana* from modern system of medicine are Vehicle, Adjuvant or Synergist and Carrier through which the actions like drug absorption, drug companion, drug interaction, drug delivery and bioavailability of the drug will take place.

Vehicle - The word vehicle is derived from the Latin word "Vehiculum" - carries.

Definition –

1. Liquid etc., as a medium for suspending pigments, drugs, etc. Vehicular adj. [Latin veho carry]⁽¹⁴⁾
2. An inert agent that carries the active ingredient in a medicine is called vehicle.⁽¹⁴⁾
3. A substance, usually without therapeutic action, used as a medium to give bulk for the administration of medicines is called Vehicle.⁽¹⁴⁾
4. Any more or less inert substance added in a prescription as a diluents or vehicle or to

- give form or consistency when the remedy is given in pill form is called excipient.⁽¹⁴⁾
5. Any more or less inert substance added to prescription in order to confer suitable consistency or a form of to the drug is called excipient.⁽¹⁴⁾
 6. An inert medium (as a syrup) in which a medicinally active agent is administered is called vehicle.⁽¹⁴⁾
 7. Any of various media acting usually as solvents, carriers, or binders for active ingredients or pigments is called Vehicle.⁽¹⁴⁾
 8. A substance, usually fluid, possessing little or no medicinal action, used as a medium for active remedies is called vehicle.⁽¹⁴⁾
 9. Excipients are non-active ingredients added to capsules to facilitate a number of desired effects.

Classification of Excipients-

It can be classified in to the following categories,

1. Diluents 3. Surfactants or wetting agents
 2. Lubricants 4. Absorbents
1. **Diluents** – Diluents are fillers that add bulk to a capsule to facilitate proper fill and cohesion.
Eg – Lactose, microcrystalline cellulose and pregelatinized starch.
 2. **Lubricants-** Lubricants are added to a capsule to prevent adhesion and facilitate the flow of the drug fill into the tableting or encapsulating machinery.
Eg – Magnesium stearate.
 3. **Surfactants** – Surfactants or wetting agents facilitate the wetting of the drug substance to enhance dissolution.
Eg - Sodium lauryl sulphate.

4. **Absorbents** – Absorbents are added to a capsule to physically separate interacting agents and absorb any liquefied material.
Eg –Magnesium carbonate, kaolin, light magnesium oxide.
Eg for vehicle – A syrup in liquid preparation.
Simple syrup, aromatic powder, honey, and various elixirs...

Research article on vehicle :⁽¹⁵⁾

Title – “Extrinsic sugar as vehicle for dietary fat”

This study concludes that lowering the intake of extrinsic sugar is unlikely to be associated with higher fat intake. Instead extrinsic sugar may act as a vehicle for fat intake, encouraging consumption by making the fat more palatable.

Adjuvant –

The word adjuvant is derived from Latin word “adjuvant”-- the synonym given for adjuvant.
Definition - That which assists, especially a drug added to a prescription to hasten or increase the action of a principal ingredient.⁽¹⁵⁾

Synergist –

A remedy that acts to enhance the action of another is called Synergist.⁽¹⁵⁾
A substance added to a drug product formulation which affects the action of the active ingredient in a predictable way.⁽¹⁵⁾
Eg- In immunology, chemicals such as aluminium hydroxide and aluminium phosphate that are added to an antigen to increase the body immunologic response. The adjuvant that increases the size of the antigen, making it easier for B-lymphocytes and phagocytes to

recognize it, also promote the chemotaxis and stimulate the release of cytokine.

Carrier -

Definition – A molecule that when combined with another substance is called Carrier. Benefit when it is combined with another substance, it can pass through a cell membrane, as occurs in facilitated diffusion or some transport mechanisms.⁽¹⁵⁾

Importance of vehicle: Vehicle is a substance that is advised along with the medicine and the actions of it are seen in relation with following aspects:

1. Drug Administration:

There are many routes of drugs administration mentioned in modern system of medicine. One of such method is oral administration or oral ingestion.

Oral ingestion – It is the most common method of drug administration. It is the safest, most convenient and most economical.

Modifications in oral ingestion:

Some of the modifications in drug administration are made to increase the efficacy of the medicines like in the case of tablets. The modifications that are made in tablets are given below.

Controlled release preparation –⁽¹⁶⁾

The rate of absorption of a drug administered as a tablet or other solid oral dosage form is partly dependent on its rate of dissolution in GI fluids. This is the base of controlled release, extended release, sustained release and prolonged action pharmaceutical preparation that is designed to produce slow, uniform absorption of the drugs for eight hours or

longer. Such preparations are offered for medication in all categories.

Advantages of such preparation-

- Reduction in the frequency of drug administration
- Maintenance of therapeutic effect over night.

Base- Hydroxides or carbonates or bicarbonates as a base for Esculetin. Eg :- Antidepressant therapy Nemeroff, 2003, Ca⁺⁺ entry blockers – Dihydropyridine.

1. Sustained action⁽¹⁷⁾tablets
2. Sublingual tablets
3. Lozenge tablets
4. Soluble tablets
5. Effervescent tablets
6. Enteric coated tablets
7. Chewable tablets
8. Sugar coated tablets
9. Film coated tablets
10. Hard and soft Gelatine capsules

2. Drug companion :⁽¹⁷⁾

Definition – A medication which efficacy depends on its use with second agent and the same drug may have little effect when used alone is called drug companion.

3. Drug delivery :⁽¹⁷⁾

Definition- Systems for the delivery of drugs to target sites of pharmacological actions. There are several methods of drug delivery have been used experimentally. Those are –

- Chemical modifications of a drug to enable it to penetrate membranes such as blood barrier.

- Incorporation of micro-particles in colloidal carriers made of proteins, carbohydrates, lipids or synthetic polymers.
- Controlled release systems that permit a drug to be delivered for very long periods.⁽³⁵⁾

4. Drug interaction :⁽¹⁷⁾

Definition – The combined effect of drugs taken concurrently is called drug interaction. The result may be antagonism or synergism and consequently may be lethal in some cases.

5. Drug absorption :⁽¹⁷⁾

Definition –The process whereby a drug moves from the muscle, digestive tract, or other site of entry into the body toward the circulatory system.

6. Bioavailability :⁽¹⁸⁾

Definition – Bioavailability is a term used to indicate the fractional extent to which a dose of drug reaches its site of action or a biological fluid from which the drug has access to its site of action.

Bioavailability of a drug is defined as the amount or percentage of drug that is absorbed from a given dosage forms and reaches the systemic circulation following non-vascular administration.

For example: For Punarnavadi mandoor our Acharyas as advised Takram as Anupanam.⁽¹⁹⁾ It can be explained as - The lactic acid of buttermilk is much friendly to digestive tract than that of lactose of whole milk. The modern research have proved that lactose present in *takram* combines with Iron (Fe) and becomes Ferrous lactate which is considered as most absorbable form in the intestine than Iron. Takram has acidic pH and Iron absorption is aided by decreased pH. Alternatively, it

is possible that proteins of buttermilk or aminoacids released upon their digestion may combine with iron before absorption takes place. This view is supported by the fact that W.H.O has also recommended use of meat or other proteins to enhance iron absorption and that ferrous glycine sulphate is widely used as iron salt in Allopathy⁽²⁰⁾. So our Acharyas might have suggested *Takram* as an *Anupana* in *Pandu* with *Punarnavadi mandoora*.

CONCLUSION

- *Anupana* is a specific substance administered at the proper time and in prescribed method along with or after *ahara* and *ou-shadha* to get desired results.
- It is to pacify the *atitiksha guna*, *vyavayi* and *vikasi gunas* of the main drug, eg. *Ghrita*, *Takra* and *Kshira*.
- It is to stimulate the action if the drug is less potent. eg:- *Trikatu* and *gomutra*.
- To carry the drug to specific location where its action is needed. For this a *dravya* possessing *yogavahi guna* is needed. eg. *Madhu*.
- A *drava dravya* is needed as an *anupana* for easy swallowing of *churna* (or) *gutika*.
- To create the palatability if the drug cannot be swallowed because of reluctance.

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