

Clinical Study of Compound (*Emblica Officinalis* Gaertn.), *Terminalia chebula* Retz., *Piper longum* Linn., *Plumbago zeylanica* Linn.) with special reference to its role in *Jvara* (Fever)

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Abstract

The existence of medicine shows its prehistoric antiquity. The knowledge regarding medicinal value of plant was been collected in a course of several centuries. *Ayurveda* reveals that we had a rich knowledge of the use of medicinal plants from very ancient times. The ancient scholars have described the medicinal properties of plants through their deep observation, analysis of observation and after words clinical assessment in patients. *Amalakyadi gana* is one of the formulation of *Sushruta samhita* 38th chapter of *Sutra sthana*, which is said as *Sarvajvarahara* (to alleviate all kind of fever) and *Amalakyadi gana* consist of four drugs i.e., *Amalaki*, (*Emblica officinalis* Gaertn.), *Haritaki* (*Terminalia chebula*), *Pippali* (*Piper longum* Linn.) and *Citraka* (*Plumbago zeylanica* Linn.). Pathophysiology of the disease *Jvara* reveals that it is caused due to *Vikrita Pitta*, *Agnimandya* and *Srotorodha*. Most of the drugs are having *Laghu guna*, *Usna virya* and *Madhura vipaka* therefore acting act as *Pitta Shamaka*, *Dipana*, *Pachana*, *Srotoshodhana*.

Keywords

Ayurveda, *Amalakyadi gana*, *Sarvajvarahara*, *Amalaki*



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INTRODUCTION

The term *Jvara* is derived from the root word "*Jvar*" which mean, "to make hot" by adding suffix "*Dhyan*". *Jvara* (Fever) in Ayurveda has been stated as the condition producing agony in the body, in *Mana*¹ and *Jvara* is also characterized by *Svedovarodha*, *Santapa* and *Sarvangagrahana*². *Rupa / Laksana of Jvara is Santapa (Deha, Indriya and mana santapa), Aruci (Anorexia), Angamarda (Pain all over the body), TrisnaadhikyÁta (Increased thirst), Hridayatha (Pain in cardiac region)*³.

In conventional medicine *jvara* is known as pyrexia, which is derived from Greek word-*pyr* means fire. Fever is an elevation of body temperature that exceeds the normal daily variation and occurs in conjunction with an increase in the hypothalamic set point (e.g., from 37°C-39°C). Temperature is ultimately regulated in the hypothalamus. Fever is triggered by a pyrogen. Endogenous pyrogens are the proteins released by degenerating tissues, factors released from injured cells, polypeptides produced by a variety of host cells. Exogenous pyrogens are derived from outside the patient; most are microbial products, microbial toxins, or

whole microorganisms. The classic example of an exogenous pyrogen is the lipopolysaccharide endotoxin produced by all gram-negative bacteria. Another group of potent bacterial pyrogens is produced by gram-positive organisms and includes the enterotoxins of *Staphylococcus aureus* and the group A and B streptococcal toxins, also called superantigens⁴.

Though, good number of single and compound dosage forms are prescribed for different kinds of *jvara* in the original text of *Ayurveda* there is one compound formulation i.e. *Amalakyadi gana* found in *Sushruta samhita*, 38th chapter of *Sutra sthana*, which is said as *Sarvajvarahara*⁵ (to alleviate all kind of fever). *Amalakyadi gana* is also act as *Cakshusya* (Beneficial to eye), *Dipana* (enhances the *agni*), *Vrisya* (Aphrodisiac) and *Kapharocakan* (Eversion of food due to *Kapha*). *Amalakyadi gana* consist of *Amalaki*, *Haritaki*, *Pippali* and *Citraka*. All the four drugs of this group are vegetable in origin. The fruit of *Amalaki*, *Haritaki* and *Pippali* and the root of *Citraka* are the useful parts of this gana.

Identification and collection of Raw drugs
Amalaki (Emblica officinalis Gaertn.), *Haritaki (Terminalia chebula Retz.)*, *Pippali (Piper longum Linn)*, *Citraka (Plumbago*

zeylanica Linn.) has been identified by Prof. V. K. Joshi, Department of Dravyaguna, B.H.U. The mature fruit of *Amalaki* and *Haritaki* was collected from the *Dravyaguna* garden, B.H.U., *Citraka* root was collected from the Rajiva Gandhi South Campus Barkacha, Mirzapur. The fruit of *Pippali* was purchased from the local crude drug marked Goladinanath after ensuring that the drug is more than one year old.

Formation of Tablet:

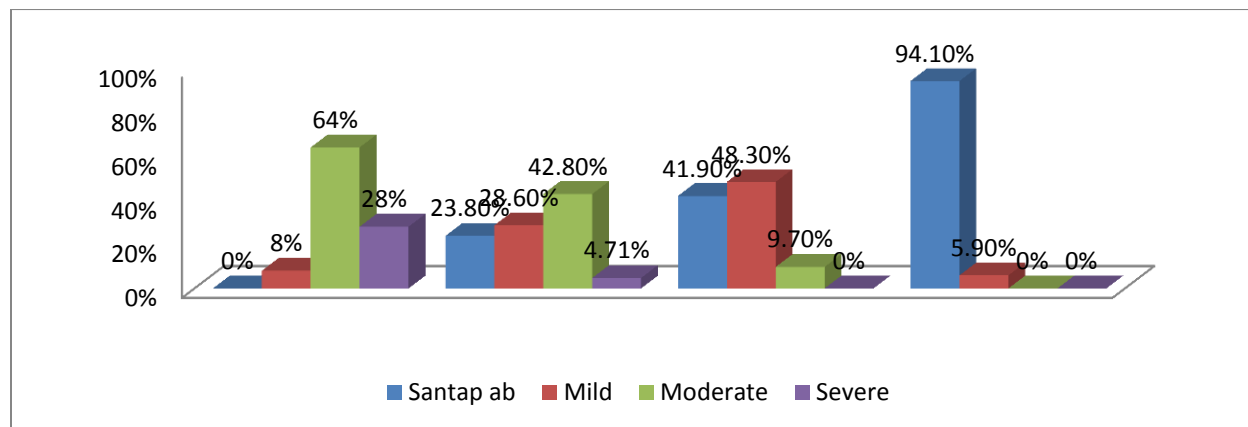
All the drugs were powdered and equal amount of each drug with appropriate excipients (3% Acacia catechu) were taken for granulation formation. These granules were further compressed for tablet formation.

Dosage form and Dose-

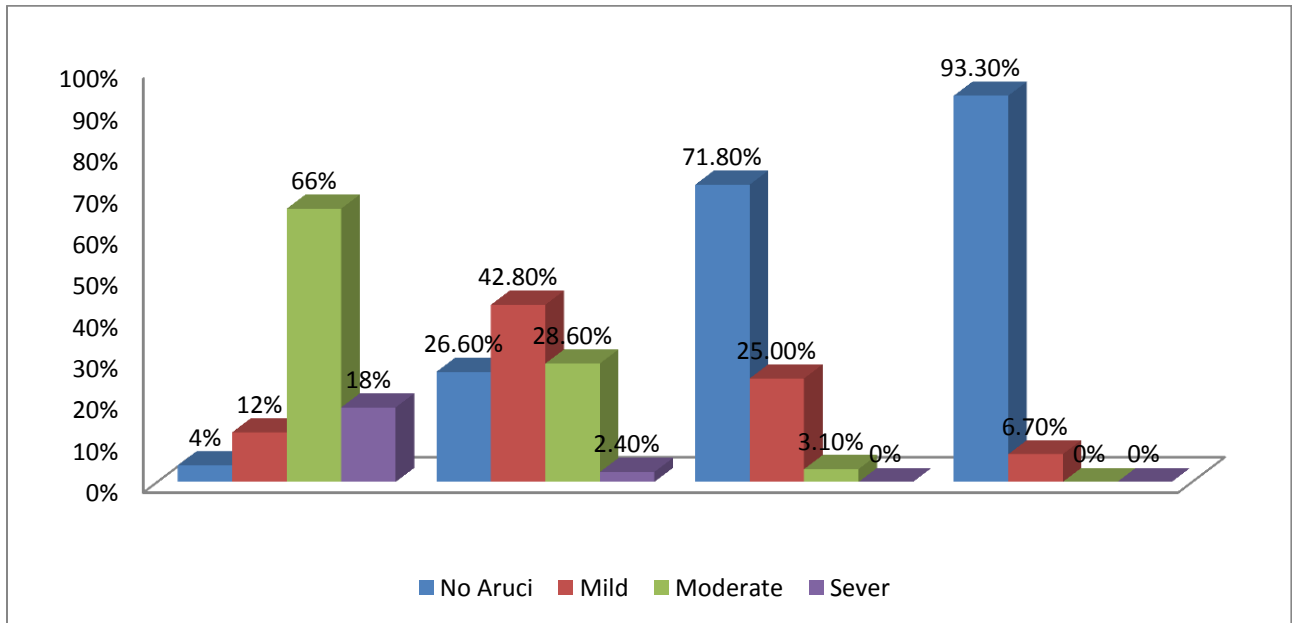
The tablets were prepared using tablet machine each weighing 500mg. Two tablets twice a day were given to patients with water.

Observation-

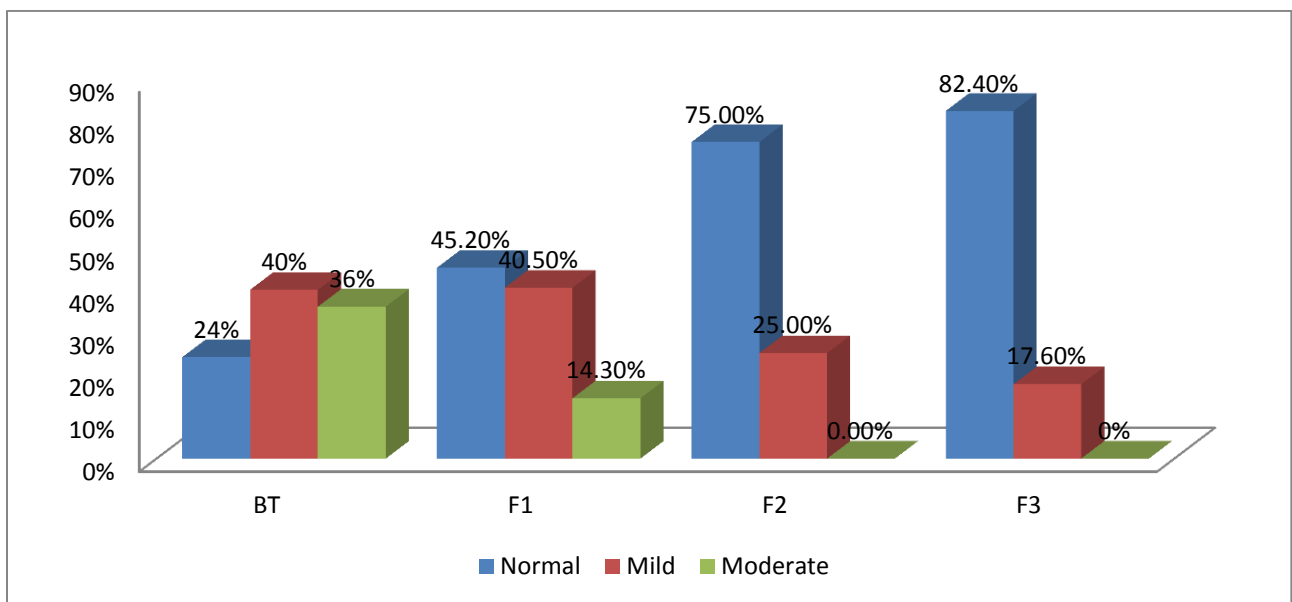
The present study was conducted to know the effect of drugs of *Amalakyadi gana* on the patients of Jvara. Under this study initially 50 patients were registered; out of which 8 patients dropped out in different follow ups. These drop-out patients did not turn up for follow up. Patients were called for follow up in every three days for three follow up.



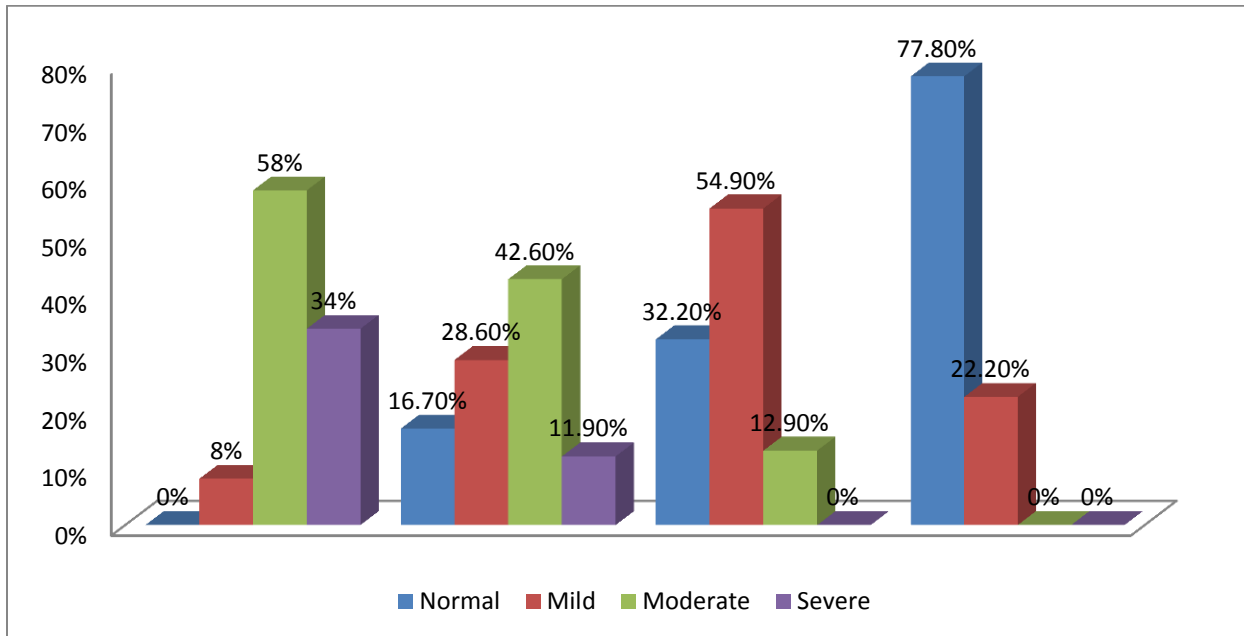
Bar diagram-1 Showing distribution of subjects at initial level and subsequent follow-ups according to improvement in *Santapa*(Increased body temperature) among the study groups.



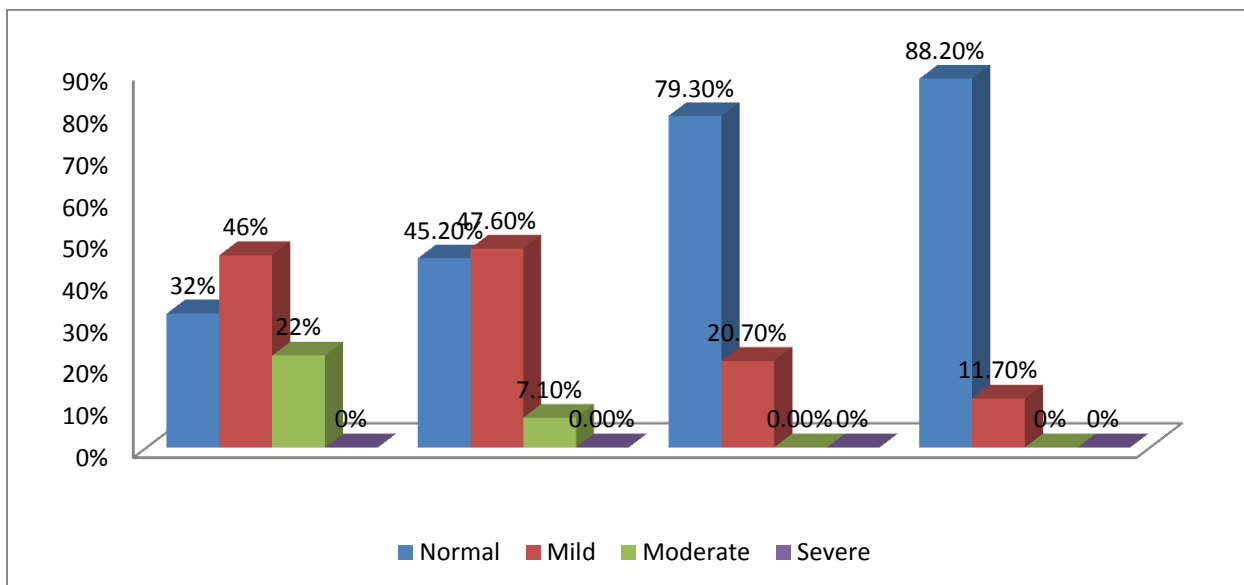
Bar diagram 2- Showing distribution of subjects at initial level and subsequent follow-ups according to improvement in *Aruchi* (lack of eating desire) among the study groups.



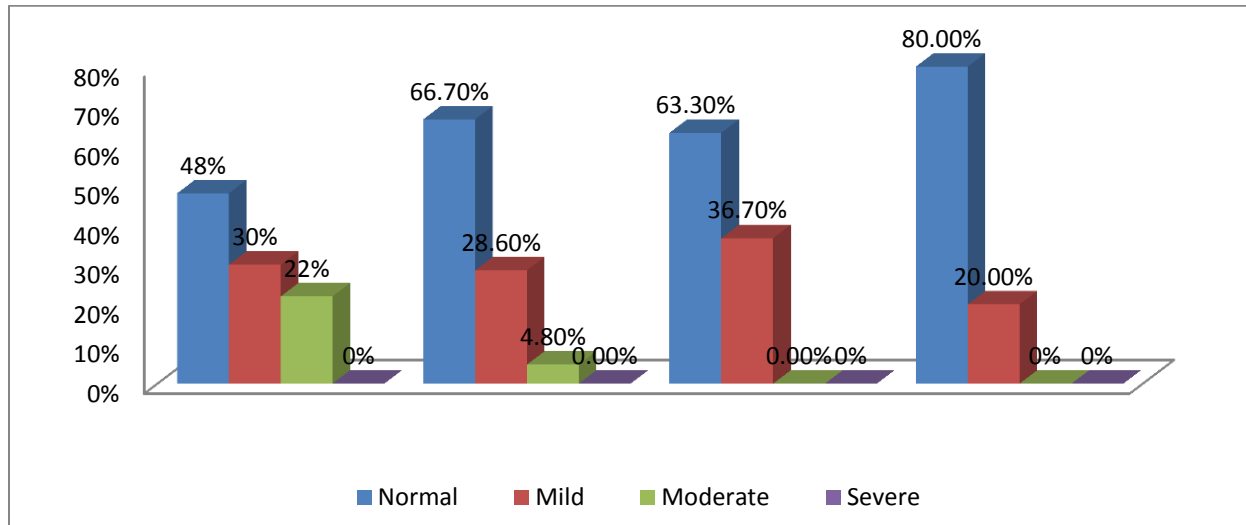
Bar diagram 3- Showing distribution of subjects at initial level and subsequent follow-ups according to improvement in *Trisnaadhikyata* (Increased thirst) among the study groups.



Bar diagram 4- Showing distribution of subjects at initial level and subsequent follow-ups according to improvement in *Angamarda* (Pain all over the body) among the study groups.



Bar diagram 5- Showing distribution of subjects at initial level and subsequent follow-ups according to improvement in *Svedorodha* (Loss of Perspiration) among the study groups.



Bar diagram 6- Showing distribution of subjects at initial level and subsequent follow-ups according to improvement in *Hridayavyatha*(distress in cardiac region) among the study groups

DISCUSSION

Jvara (pyrexia) has its uniqueness because every living being suffers with it since very beginning of birth and any time till death. The *Amalakyadi gana* (compound formulation) prescribed to all the studied patient in dose of two tablet morning and two tablet evening showed improvement of *jvara* in almost all the cases (94.10%). The change in *Aruci* (lack of eating desire) was reported by 93.3% patient; change in *Angamarda* (Pain all over the body) in 77.8% patient; change in *Trisnaadhikyata* (Increased thirst) in 82.4% patient; change in *Svedovarodha* (Loss of Perspiration) in 88.2% patient and change in *Hridayatha* (distress in cardiac region) in 80% patient was reported.

Probable Mode of Action:

- Patho physiology of disease *Jvara* reveals that it is caused due to *Vikrita Pitta*, *Agnimandya* and *Srotorodha*.

- *Jvaraghna karma* not only includes *Santapa shamana* but also *Dipana*, *Pachana*, *Srotosodhana*, *Pitta shamana*, *Svedana* as sub activities. In this regard, the drugs of present formulation acted in synergy to bring about *Jvaraghna* action.

Drugs Possess-

Rasa – *Katu rasa - Dipana* and *Ama pachana*

Guna - *Laghu - Kapha samana, Sroto shodhaka, Agnidipana,*

Ruksha - Kapha shamana, Ama pachana

Virya - *Sita* - It does *Pitta Shaman*.

Usna – *Pacan, svedana*

Vipaka - *Madhura - Dhatuposhana.*

Katu - kapha saman, Sroto sodhana.

Most of the drugs are having *Laghu guna*, *Usna virya* and *Madhura vipaka* therefore they act as *Pitta Shamaka*, *Dipana*, *Pachana*, *Srotoshodhana*. Hence this formulation seems to be effective in *Jvara*.

SUMMARY AND CONCLUSION-

Jvara (Fever) is well known since ancient times as it is referred in vedic compendia followed by sub-veda i.e., *Caraka samhita* and *Sushruta samhita*. A number of single and compound formulation are prescribed in original scripture of *Ayurveda* i.e., *Caraka samhita* and



Sushruta samhita. Out of them *Sushruta samhita* a *Sarvajvarahara-yoga* has been ascribed, which is named as *Amalakyadi gana*. This *Amlakyadi gana* consist of *Amalaki*, *Haritaki*, *Pippali* and *Citraka*, the fruit of *Amalaki*, *Haritaki* and *Pippali* and the root of *Citraka* are used in equal proportion. The *Amalakyadi* tablet is given to the patients in dose of two tablet morning and two tablet evening. The drug is found to produced improvement in sign and symptom. Finally the *Jvara* is found to reduce in almost all the cases. Thus the result shows that the drug is effective in *Jvara*.

REFERENCES

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2. Sushruta samhita uttar sthana 39/13.
3. Carak samhita chikitsa sthana 3/28-29.
4. Kasper, Braunwald, Fauci, Hauser, Longo and Jaseson, Harrison's principles of Internal Medicine, 16th Edition, Chapter 16, 2005, page no. 104-107.
5. Sushruta samhita sutra sthana 38/60-61.