

## Unscientific Science of Modern Technology in Ayurvedic Drug Standardization- A Review

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### Abstract

Ayurveda or Ayurvedic pharmaceutical wisdom is proved, established and accepted system thousands of years ago, which is known as *Siddhant* (admitted truth), does not require any certification from reductionist modern technology for standardization of Ayurvedic drugs. Discoveries were possible during Vedic period not with the large sophisticated equipment developed by linear scientist but with the highly advanced nonlinear theories, basic principles, intuitive spirit and the sixth sense. The present day scientific study of Ayurvedic drugs is not a complete and comprehensive understanding of traditional wisdom.

### Keywords

*Drug, Standardization, Nonlinear law, Modern technology, Basic principle*



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## INTRODUCTION

Poly herbal, herbomineral and single herbal formulations of Indian System of Medicine should be studied based on their inherent medicinal properties like *Rasa* (taste), *Guna* (attributes), *Veerya* (energy), *Vipak* (effect), *Prabhava* (supernatural power) and *karma* (action) to understand comprehensive effect. Study of *dravyaguna* (pharmacognosy) principles with linear system gives unripe and incomplete information. Standardization of drugs should be based on their nature, qualities, specific actions, place of growth, season of collection, mode of collection, method of preservation and method of preparation as it is told in the treatises to achieve nonlinear and comprehensive therapeutic effect.

### Technology versus epistemology

Modern hi-tech technology has impressed developed and developing countries to believe that human beings cannot survive without the help of Hi-tech technology. But Vedic and other literatures confirm existence of human being on this planet since thousands of years in many

generations before the birth of linear system based modern medicine<sup>1,2</sup>. Hi-tech modern medicine has been there for less than half a century<sup>3</sup>. If human existence on this planet was dependent only on hi-tech technology, mankind would have been burnt out long ago. Even today more than 4.5 billion global populations do not have any touch with modern medicine.

Oxford Advanced Learner's Dictionary of Current English defines Standard as "Unit of Measurement"<sup>4</sup>, which quantifies the quality and purity of a material. The quality and purity of synthetic drug depends on active chemical ingredient present in it which is capable of producing therapeutic effect as well as adverse effect. But this is not true with natural drugs which are derived from plant, animal and mineral sources because of their *panchabhoutik* (five elements theory)<sup>1</sup> complex chemical structure and composition<sup>5</sup> than synthetic drugs.

Acharya Charaka supporting this view explains limitations of human being or technologies in understanding of nature complexity by saying that "*Pratyaksham Alpam Analpam Apratyaksham*"<sup>1</sup>, it means,



it is impossible to study completely including quantification of quality and action of a drug because of other hidden qualities which are not possible to be detected by available hi-tech modern technologies. All the studies including clinical studies carried out about the drugs with present day thinking and hi-tech technologies are incomplete because of which adverse drug reactions are seen. Example is adverse effect of reserpine extract of *Rauwolfia serpentina*.

Majority of Indian System of Medicines are poly herbal<sup>6</sup> or herbomineral<sup>7</sup> preparations containing a large number of balanced active chemical principles<sup>1</sup> (*Samanya and Vishesh Siddhanta-Theory of similarity and Dissimilarity*) in different concentrations. So no one can imagine or no hi-tech technology can detect or explain the interactions between these chemical constituents present in them. It is scientifically difficult task to standardize single or poly herbal preparations according to present day reductionist modern science and with devices of money making device manufacturers<sup>8,9</sup> because majority of the formulations are complex materials of the natural origin.

The unique theory of *Samanya and Vishesh* “*Pravratirubhayasya tu*”<sup>1</sup> says that food and medicines are naturally chemically balanced. Acharya Chakrapani further substantiating the same theory says that “The maintenance of the *Dhatusamyata* (equilibrium of the body) is the effect of *Samanya and Vishesh Siddhanta*. Thus taken separately, either of them will not be able to maintain the *Dhatusamyata*. It is only when they simultaneously have their effect of *Vraddhi* (increase) and *Hrass* (decrease) that the *Samyata* (equilibrium) of *Dhatu* (body) is properly maintained”. This theory does not agree with isolation of active component of a drug. A world famous cardiologist with heart Professor B.M. Hegde always says that “Nature has its reasons always, but our reason can not explore them many a time<sup>3</sup>”

### Poverty of medical evidence

Indian System of Medicine is based on “A demonstrated truth established after several examinations and reasoning”, which is known as *Siddhanta*<sup>1</sup> which does not require any certification from reductionist modern science / technology. A Dutch scientist so beautifully put the simple truth that science is what scientist do in his own language thus: “*Watenchap is wot watenchap doen*”.



Ayurvedic community always tries to understand unique system by modern science but the fact is that there are 40,000 biomedical journals out of which only 1% of medical publications represent “good science” which has been estimated by Stephen Lock, the former editor of British Medical Journal<sup>3</sup>. Acharaya Sushruta says<sup>10</sup> to take help of other sciences to come to a scientific conclusion, but sometimes it is difficult to find truths in articles published by suspected research frauds<sup>11</sup>. The editorial of The Lancet gives a clue to Ayurvedic community, to follow “*Siddanta's*” of our Acharya's, by writing an article on “Drug–company influence on medical education in USA”<sup>12</sup>. Unethical Bio-Medical Research<sup>13,14</sup> might have influenced on the content of Medical text books which is followed by other researchers in under developed and developing countries and taught to the medical students.

Not to end in self destruction it is wise not to study the Ayurvedic *Siddhant* based drugs by short- sighted modern science. Study and standardize the drugs as it is said in the treatises, by their nature, qualities, and specific actions, place of growth, season of collection, mode of collection, method of preservation, and method of preparation as it

is told by Acharya Charaka<sup>1</sup>. There is planet difference in drug research of modern medicine / science and Ayurvedic system, highlighting example is that action of modern drug is explained or understood based on its active chemical<sup>15</sup> but Ayurvedic drugs act by their own nature or naturally balanced qualities or both on a proper occasion, in a given location, in a appropriate condition and situations as it is mentioned by *Vedasindu*<sup>1</sup>. Example to be quoted here is *Mahatiktaka Ghrata* (medicated ghee) does *Dosha Shamana* (pacifies) and *Dosha Utklesh* (increases) when it is given as *Shamananga* (pacification purpose) and *Shodhananga* (purification purpose) *Snehapana* (drinking ghee) respectively<sup>16</sup>.

Acharaya Sushruta has classified *Bhoomi* (land) into 6 types based on *Gandha* (smell), *Varna* (colour) and *Rasa's* (taste); similarly the drugs are also of 6 types. And also properties of a drug vary from *Desha* (region) to *Desha* and season to season<sup>10</sup>, then how can modern science be able to come to a same conclusion about a drug grown in different areas? Can modern science explain why the drug “*Suryabhakta*” (*Helianthus annus* Linn) moves according to the movement of the



sun? Why the drug *Lavali* (Gicea acida Merrill)<sup>1</sup> gets fruits just on hearing the sound of the thunder? How does the universe run?

In one of the prestigious Journal 'Journal of American Medical Association', August 23/30, 2006 reported that the discovery of new medications, Devices and techniques is funded primarily by for-profit of companies. There is now considerable evidence that researchers with ties to drug companies are more likely to report results that are favourable to the products of those companies than researchers without such ties as reported in editorial of the New England Journal of Medicine, May 18, 2000. King Bhoja highlights the less importance of equipments in discoveries by saying that "*Kriyasiddissatve bhavati mahatam nopakarane*" – "It is not with the highly sophisticated equipment that we can make outstanding discoveries but with the innate power inside"<sup>17</sup>.

There is no ethical standardization for bio-medical research including clinical studies, invention of devices<sup>18</sup> and diagnostic criteria<sup>19</sup>. When selling sickness and disease mongering programs are well planned in the medical field how can bio-medical research

reports or devices be taken as scientific base for standardization of *Siddhant* based drugs?

### A science beyond science

Indian Vedic Sciences including Ayurveda are based on Non-linear laws. Non linear systems generally can not be solved and can not be added. But modern medicine / technology is based on linear systems. Linear equations are solvable, which makes them suitable for textbooks. Linear mathematics does not always work in this dynamic universe. Let us take very simple and more meaning full example and explanation given by Professor B.M.Hegde that "Hydrogen is a very volatile atom while oxygen abets volatility. The two atoms combined together can produce exothermic reaction! Let us take water (H<sub>2</sub>O) as a good example and set fire to it .Does not it burn? Moral of the story is that the whole need not be the sum total of the bits always". This is essence of Indian Vedic non-linear laws of the universe.

Some one wrote the correct history of Medicine thus: (Author not known), \*2000 BC- Here, eat this root, 1000 AD- That root is heathen, say this prayer. 1850 AD - That prayer is superstition. Here, drink potion. 1940 AD- That potion is snake oil. Here, swallow this pill, 1985 AD- That pill is

ineffective. Here, take this antibiotic, 2000 AD – That antibiotic is dangerous. Here, eat this root (19). This history can be again substantiated with following report- A Large study in Canada of the effects of antioxidant, vitamins versus an extra intake of fruits and vegetables in large cohort of postmenopausal women showed a marked benefit in the later group. In an editorial, the BMJ went on to say that there could be many other antioxidant factors in the whole fruits and vegetables, in addition to the known A, C and E vitamins in the tablets <sup>20</sup>,  
<sup>21</sup>.

## CONCLUSION

This is a need of the hour to rethink classical standardization of drugs based on existing principles but not based on modern methodology which is linear system based and keeps on changing its principles. Dear linear friends, the authors have expressed their opinion about *Siddhant* based Ayurvedic drugs with suitable references. It does not mean that we are against modern technology by which mankind is survived in emergency clinical conditions and would never have stepped into other planets.



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