

International Journal of Research in AYUSH and Pharmaceutical Sciences

Research Article

SCOPE OF EXTRACTIVE VALUE TO JUSTIFY THE CONVERSION OF *SASTRIC SIDDHA CHURNA* TO TABLET DOSAGE FORM

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Keywords: Sastric siddha medicines, *Triphalachoornam*, *Trikadukuchurna*, Extractive values, *Churna* tablet preparations, Tablet dosage.

ABSTRACT

The present study deals with the science of converting Sastric siddha churna to tablet dosage form. The Sastric form of Siddha churna is difficult to use by patients due to the coarse powder form as well as the high quantity to be consumed per dose (2-4 gm). In order to enhance the acceptance of Siddha churna by the modern world necessary change in presentation packaging is needed. The question of how to convert 2 gms of Churna to 500 mg of tablet requires greater scientific investigations and understanding. We have used the extractive value as the key determining factor to convert Sastric siddha churna to tablet dosage form. Details are presented in the paper.

INTRODUCTION

Siddha system of medicine is an ancient healing practice that was followed in southern part of India, Tamil Nadu. The true legacy of Siddha system can be traced back to Lord Siva, who is considered to be the first Siddhar. The holy essence of Siddha system got perpetuated by several Siddhars at different time points and essentially all Siddhars were the followers of Saiva Siddhanta. Siddhars were largely nomads and were using several herbal, mineral, metal and animal products as drugs to treat several diseases. Further the excretory products of several animals such as urine, fecal matter and skin exudates are also followed by Siddhars to achieve great healing benefits.

Siddha system predominantly emphasize upon the wellness, health, longevity and finally the eternal salvation of human soul otherwise called as 'Siddhi'. Therefore, preserving the health is the fundamental tenet of Siddha system as doctrine by ancient Siddhars.

Although Siddha system is time tested and has surpassed all experimental science and remain

as a glorious healing system. But in recent times, it suffers poor acceptance due to the primordial method of preparations followed. Further most of the products are crude and natural.

The application of modern technology is necessary to 'pack and present' the Siddha recipes to the present world in order to increase the acceptance. However, such transformation should be done carefully in order to preserve the traditional and intuitive values of the system. Simultaneously the system also must be made acceptable to the modern world.

A thorough scientific understanding on the method of preparation and the presentation format of various Siddha medicines are essential and only than the 'native science' can be packaged and presented in modern format and can be made the glorious Siddha system as an eternal science of our spiritual masters and Lord Siva.

We Dr.JRK's Research and Pharmaceuticals Pvt Ltd., has been working for the last three decades to propagate the glory and essence of Siddha system for the welfare of humanity. We have made several efforts to revitalize the Sastric siddha churnas through changing the dosage form from the existing polyherbal churna form to easily consumable tablet dosage

form. We have adopted the use of extractive value to equate the dosage justification from *churna* to tablet.

We believe that our earnest effort would revolutionize the acceptance of Siddha system by the world at large and our yeomen effort shall benefit the humanity at large.

MATERIALS AND METHODS

The list of Sastric churna studied

Product name	Ingredients	Dosage	Reference
<i>Trikaduku choornam</i>	<i>Zingiber officinale</i>	2gm with milk	Siddha Formulary of India, 156 P
	<i>Piper nigrum</i>		
	<i>Piper longum</i>		
<i>Triphala choornam</i>	<i>Terminalia chebula</i>	2gm with honey	Siddha Formulary of India, 156 P
	<i>Terminalia bellarica</i>		
	<i>Phyllanthus emblica</i>		
<i>Panchadeepakni choornam</i>	<i>Zingiber officinale</i>	1-2 gm with honey/water	Siddha VaithyaThirattu, 265 P
	<i>Piper nigrum</i>		
	<i>Piper longum</i>		
	<i>Elettaria cardomomum</i>		
	<i>Cuminum cyzinum</i>		
<i>Yelathi choornam</i>	<i>Elettaria cardomomum</i>	2gm with honey/milk/water	Siddha Vaithya Thirattu, 258-259 P
	<i>Zingiber officinale</i>		
	<i>Curcuma angustifolia</i>		
	<i>Abies spectabilis</i>		
	<i>Mesuaferrea</i>		
	<i>Piper nigrum</i>		
	<i>Syzygium aromaticum</i> and Sugar		
<i>Parangipattai choornam</i>	<i>Smilax chinensis</i>	2gm with milk	Siddha Vaithya Thirattu, 267 P
	<i>Ocimum sanctum</i>		
<i>Thalisathi vadagam</i>	<i>Abies webbiana</i>	0.5-1 gm with honey /water	Siddha Formulary of India, 146 P
	<i>Piper nigrum</i>		
	<i>Piper nigrum root</i>		
	<i>Piper longum</i>		
	<i>Piper longum root</i>		
	<i>Zingiber officinale</i>		
	<i>Cinnamomum zeylanicum</i>		

	<i>Cinnamomum tamala</i>		
	<i>Mesua ferrea</i>		
	<i>Elleteria cardamomum</i>		
	<i>Vetiveria zizanioides</i>		
	<i>Alpinia officinarum</i>		
	<i>Eclipta alba</i>		
	<i>Mesua ferrea</i>		
	<i>Elleteria cardamomum</i>		

Calculation of extractive value of

Sastric product

For the calculation of extractive value, 5 gm of the sample was weighed accurately and was treated with 100ml of absolute alcohol in a clean conical flask of 250ml. The conical flask was covered and placed the mixture in a rotary shaker at room temperature and was allowed to shake for 6 hrs. After 6 hours the mixture was allowed to stand stationary for another 18 hrs. Then the mixture was filtered and the filtrate was evaporated. After complete evaporation of the solvent the residual extract was weighed accurately and the percentage of extractive value was calculated by using the formula given below. [7-10]

Extractive value (%) = weight of Residue / weight of sample X 100

Formulation of Tablet

The conventional tablet base (Micro Crystalline Cellulose, Poly vinyl pyrrolidone and Magnesium stearate) was used. According to the extractive value of different Siddha sastric drugs, the tablet dosage form was prepared. [1-6]

For example, if the extractive value of *Trikaduku choornam* was 4% means, every 100 gm would contain 4 gm of extractable matter and the remaining portion would be fibers which in all likely hood may not have any therapeutic value.

The therapeutic dosage recommended for the *Trikaduku choornam* is 2gm. It means the 2 gm of *Trikaduku* will have 80 mg of extractable matter of various herbs. The tablet formulation was made with 80 mg of the extractable matter of *Trikaduku choornam* presented in either 250 or 500 mg of the base.

RESULTS

Extractive value of various Sastric siddha products

Following table shows the extractive value of different Sastric siddha recipes. The extractable matter present per 2 gm of various Sastric siddha drugs is also presented in the Table-1.

Table 1: Extractive value of various Sastric siddha products

S.No	Product	Alcohol extractive value (%)	Quantity of extractable matter present per dosage (gm)
1	<i>Trikaduku choornam</i>	4	0.08 per 2gm
2	<i>Triphala choornam</i>	24.8	0.496 per 2gm
3	<i>Panchadeepakni choornam</i>	7.2	0.144 per 2 gm
4	<i>Yelathi choornam</i>	4.4	0.088 per 2 gm
5	<i>Parangipattai choornam</i>	2.8	0.056 per 2 gm
6	<i>Thalisadi vadagam</i>	5.2	0.104 per 2 gm

Formulation of Tablet

Trikaduku choornam

The extractive value of *Trikaduku choornam* was 4%. The recommended dosage of *Trikaduku choornam* is 2gm. In every 2 grams of *Trikaduku choornam* will contain 80mg of the extractable matter. To the tablet base of 250 or 500 mg, 80mg of the extractable matter of *Trikaduku choornam* was incorporated and accordingly the tablet was made.

Triphala Choornam

The extractive value of *Triphala choornam* was 24.8%. The recommended dosage of *Triphala choornam* is 2gm. In every 2 grams of *Triphala choornam* will contain 496mg of the extractable matter. To the tablet base of 250 or 500mg, 496mg of the extractable matter of *Triphala choornam* was incorporated and accordingly the tablet was made.

Panchadeepakni choornam

The extractive value of *Panchadeepakni choornam* is 7.2%. The recommended dosage of *Panchadeepakni choornam* is 2gm. In every 2 grams of *Panchadeepakni choornam* will contain 144mg of the extractable matter. To the tablet base of 250 or 500mg, 144mg of the extractable matter of *Panchadeepakni choornam* was incorporated and accordingly the tablet was made.

Yelathi Choornam

The extractive value of *Yelathi Choornam* is 4.4%. The recommended dosage of *Yelathi Choornam* is 2gm. In every 2 grams of *Yelathi Choornam* will contain 88mg of the extractable matter. To the tablet base of 250 or 500 mg, 88mg of the extractable matter of *Yelathi Choornam* was incorporated and accordingly the tablet was made.

Parangipattai Choornam

The extractive value of *Parangipattai Choornam* is 2.8%. The recommended dosage of *Parangipattai Choornam* is 2 gm. In every 2 grams of *Parangipattai Choornam* will contain 56mg of the extractable matter. To the tablet base of 250 or 500 mg, 56mg of the extractable matter of *Parangipattai Choornam* was incorporated and accordingly the tablet was made.

Thalisadi vadagam

The extractive value of *Thalisadi vadagam* is 5.2%. The recommended dosage of *Thalisadi vadagam* is 0.5 -1 gm. In every 2 grams of *Thalisadi vadagam* will contain 104 mg of the extractable matter. To the tablet base of 250 or 500 mg, 104mg of the extractable matter of *Thalisadi vadagam* powder was incorporated and accordingly the tablet was made.

DISCUSSION

We have explored a great scientific possibility to revive, rejuvenate and revitalize the Siddha system with the help of modern science and technology. We took utmost care to preserve the 'nativeness' of Siddha system while presenting the system to the modern world in modern format so that the ancient tradition and modern science dangle together harmoniously and thus Siddha system gains greater acceptance.

Trikaduku choornam, *Triphala choornam*, *Panchadeepakni choornam*, *Yelathichoornam*, *Parangipattai choornam* and *Thalisadi vadagam* are considered to be sacred Siddha drugs and are known to possess multipolar therapeutic benefits. Starting from providing health through improving digestion, appetite and assimilation to boost the immunity to cure certain diseases are the attributes of the above Siddha products. However, the acceptance of the above products is highly limited to geriatric age group and those who suffer from various non-communicable diseases. Popular acceptance to all the above Siddha drugs is relatively poor.

All the above Siddha products are formulated in *Churna* form where the different herbs are pulverized and then mixed together and then is prescribed to the patient. Consumption of 2 gm of the crude herbal powder (the above recipes) even with honey or milk or water is quite difficult and hence most patients seldom use these products. The issue of non-compliance due to the method of presentation i.e., crude mix greatly limit the Acceptance of Siddha system and thereby Siddha system failed to gain appreciation from humanity and also the

benefits of Siddha system to the humanity could not fully blossom.

The Siddha recipes unless and until prepared, packed and presented in the most acceptable form, the Siddha system cannot be made glorious, nor the humanity would benefit from the Siddha system. A real tribute to the Siddha system lies in revitalizing the ancient concepts and recipes and presenting them in the modern format without losing the sanctity and sacredness Siddha system that was gifted to mankind by the first Siddhar Lord Siva.

We have used the extractive value to convert the above Siddha sastric drugs to tablet dosage form. A careful analysis of different Sastric siddha products have given us two dimensions of understanding viz., extractable constituents that was present and the residual base or vehicle. In the case of *Trikaduku choornam*, it contains 4% of extractable matter. The balance 96% was herbal fiber and may not have any therapeutic value except acting as vehicle or base. So the real therapeutic benefit of *Trikaduku choornam* was achieved only from the 4% of the extractable matter that is present.

Tablet dosage form is one of the most accepted drug dosage forms followed worldwide. The tablet base is composed of Microcrystalline cellulose which can be equated to the herbal fibers present in most of the *Siddha churna*. However, Microcrystalline cellulose has got great compressibility which the herbal fibers lack greatly. Another advantage of Microcrystalline cellulose is that when the extractable matter is incorporated in the above base it would get released instantaneously whereas such spontaneous release of extractable matter from the respective herbal sources is not that easy. Therefore, the tablet dosage form of all the Sastric drugs are likely to offer faster therapeutic delight than when they are prescribed in the native form i.e., *Churna*.

We have attempted not only to present the Sastric siddha recipes in modern format but also worked hard to enhance the therapeutic benefit. Patients must find the therapeutic benefit as quickly as possible and only than such recipes will be accepted by modern world and not just when they are presented in modern format alone.

The licensing authorities must encourage, support and promote the modern methodologies and technologies to reformulate and present the Siddha recipes to galvanize its acceptance and to gain Siddha system a 'leader in health care' stature at global level.

The native thoughts, concepts, ethos, beliefs, practices and recipes must be preserved while modernizing and only then Siddha system shall remain as Siddha system that was gifted to mankind by Lord Siva and at the same time and the system also would look modern, scientific and acceptable.

Dr.JRK's Research and Pharmaceuticals is a forerunner in popularizing the Siddha system of the medicine, giving life and soul to Siddha system through advanced science and alleviating wide spectrum of agony and sufferings of humanity through Siddha treatment. The transformation of Siddha sastric churna to tablet dosage form would certainly enhance the scientific credence of the immortal, time tested healing practice called siddha system.

CONCLUSION

We have extracted the extractable matter and separated it from the herbal base. The extractable matter was reconstituted with the conventional tablet base at 4 % and thereby we ensured that every 250 or 500mg tablet of *Trikaduku choornam* is equivalent to 2 gm of *Trikaduku* in *Choornam* form. The same method we followed for formulating all other Sastric siddha drugs such as *Triphala choornam*, *Pancha deepakni choornam*, *Yelathi choornam*, *Parangi pattai choornam* and *Thalisadi vadagam* but the extractive value of the respective recipe was used for the tablet formulation.

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Cite this article as:

Amruthavalli G.V, Aruna.V, Gayathri.R. Scope of extractive value to justify the conversion of Sastric siddha churna to tablet dosage form. International Journal of Research in AYUSH and Pharmaceutical Sciences, 2018;2(8):290-295.

Source of support: Nil, Conflict of interest: None Declared

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