

INTERNATIONAL JOURNAL OF CURRENT RESEARCH IN CHEMISTRY AND PHARMACEUTICAL SCIENCES

(p-ISSN: 2348-5213; e-ISSN: 2348-5221)

www.ijercps.com

DOI: 10.22192/ijercps

Coden: IJCROO(USA)

Volume 8, Issue 3 - 2021

Research Article



DOI: <http://dx.doi.org/10.22192/ijercps.2021.08.03.003>

A Literature review on role of seasonal flowers in neutralizing derangements of three humours

Dr. N. Bharathi¹ and Dr. M. Krishnayini²

¹Department of Noi Naadal, ²Department of Kuzhanthai Maruthuvam
Government Siddha Medical College and Hospital, Palayamkottai, Tirunelveli, Tamil Nadu, India

Abstract

Siddha system of medicine mainly based on three humoral theory. Any derangements occur within it causes disease. In order to neutralize these 3 humours (vatham pitham and kapham) many siddha formulations and habitual alterations are available. Of these, seasonal flowers plays a major role in it. So this study describes the impact of seasonal flowers in neutralizing three humours.

Keywords: Siddha Medicine, humoral theory, seasonal flowers.

1. Introduction

There is a belief that the seasonal flowering plants (i.e. plants flowering in the particular season) has a medicinal impact in curing diseases of the particular seasons.

In siddha literatures also, it is clearly stated that whatever that is happening in the universe will affect in the human body so, whatever the changes that are happening in the natural environment will influence the three humours of the body and the balance of three humours maintained by the universe itself.

But the scientific background of particular statement is unknown. So the study was intended to create evidence on impact of seasonal flowers

and it's role in neutralizing vatham, pitham and kapham derangements in the basis of *Aimbootham-Arusuvai-Mukkutram* concept stated in siddha literatures.

This study will enhance a better treatment approach towards the patient by educating them diet and food habits of each season along with therapeutic approach.

2. Aim and objective

2.1 Aim:

To document the seasonal flower and it's role in neutralizing vaatham, pitham and kapham derangements.

2.2 Objective:

To document the seasonal flowers and it's role in neutralisingvatham, pitham and kapham derangements on the basis of *Aimbootham-Arusuvai-Mukkutram*.

3.2 Preliminary data:

Month	Seasons	Humoral derangement
Dec -Feb	Munpani Kaalam	
Feb – April	Pinpani Kaalam	Kapham
April- June	Ilavenilkaalam	Kaphavatham, Kaphapitham
June -Aug	Mudhuvenilkaalam	Vatham
Aug -Oct	Kaar Kaalam	Vathapitham, Vathakapham,Pitham
Oct -Dec	Koothir Kaalam	Pithavatham Pithakapham.

EG: **Koothir Kaalam** (பித்தம் விருத்தியடையும் காலம்)

Flowering plants – Sembaruthi Poo.

மண் + நீர் =இனிப்பு = பித்தம் சமனிலைப்படும்

3.3 Information collected:

Information such as flowering plants of each seasons and their taste, siddha – kaazhaozukkam theory.

3.4 Data collected procedure:

The details of flowering plants during each seasons will be collected from;

A Search will be performed using key words seasonal flowers and it's taste in search engine

3. Materials and Methods

3.1 Study design:

A Literature review.

“National medicinal plant board” (NMPB), The foundation for revitalisation of local health tradition (FRLHT).

A Search will be performed using keywords seasonal flowers and it's taste in siddha literatures from Library government siddha medical college, palayamkottai.

The obtained details were analysed in the basis of suvai of each plant (*Aimbootham – Arusuvai-Mukkutram*.) and it is listed in below table 3.5.

3.5 Seasonal flowers and its botanical name:

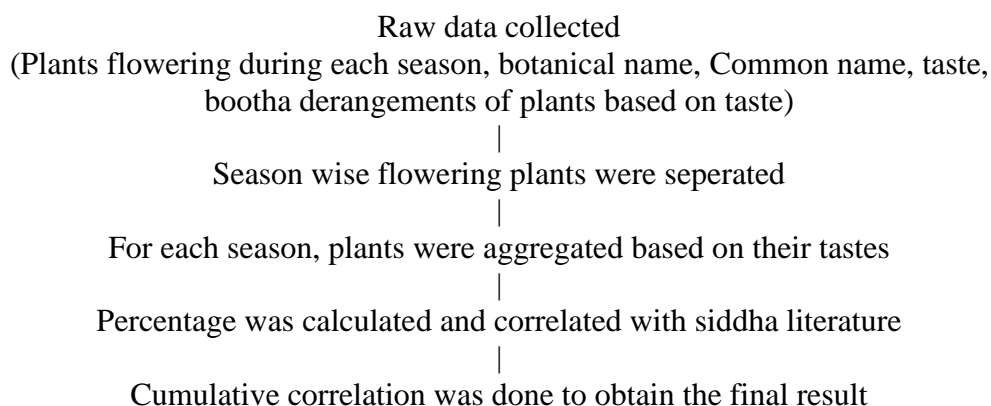
S.no	Munpani		Pinpani		Ilavenil	
	Flowering plant name	Botanical name	Flowering plant name	Botanical name	Flowering plant name	Botanical name
1	Maa	<i>Manigfera indica</i>	Agathi	<i>Sesbania grandiflora</i>	Vilvam	<i>Aegle marmelos</i>
2	Palasu	<i>Butea monosperma</i>	Maa	<i>Manigfera indica</i>	Aanaikatalai	<i>Agavae americana</i>
3	Asogu	<i>Saraca asoca</i>	Palasu	<i>Butea monosperma</i>	Bramiyavazukkai	<i>Bacopa monnieri</i>
4	Illupai	<i>Madhuca longifolia</i>	Karthamari	<i>Smilax ovifolia</i>	Allvallikizanghu	<i>Manihot esculenta</i>
5	Naval	<i>Syzygium cumini</i>	Vilvam	<i>Aegle marmelos</i>	Malaivembu	<i>Melia azedarach</i>
6	Atthi	<i>Ficus racemose</i>	Aanaikatalai	<i>Agavae americana</i>	peenaarimaram	<i>Sterculiafoetida</i>
7	Manthaarai	<i>Bauhinia purpurea</i>	Bramiyavazukkai	<i>Bacopa monnieri</i>	Marudhu	<i>Terminalia arjuna</i>
8	Peekaruvell	<i>Acacia farnesiana</i>	Munthiri	<i>Anacardium occidentale</i>	Thandri	<i>Terminalia bellirica</i>
9	Kalarva	<i>Salvadora persica</i>	Allvallikizanghu	<i>Manihot esculenta</i>	Sarphagandha/kattu paambukala	<i>Rauwolfia serpentine</i>
10	Munthiri	<i>Anacardium occidentale</i>	Sitruuchi	<i>Phoenix sylvestris</i>	Kalarchikodi	<i>Ceasalpinia bonduc</i>
11	Paruthi	<i>Gossypium herbaceum</i>	Asogu	<i>Saraca asoca</i>	pathiri	<i>Stereospermum colais</i>
12	Pannaikeerai	<i>Celosia argentea</i>	Illupai	<i>Madhuca longifolia</i>	Nilavembhu	<i>Andrographis paniculata</i>
13	Vilvam	<i>Aegle marmelos</i>	Illavu	<i>Bombaxceiba</i>	Serangkottai	<i>Semecarpus anacardium</i>
14	Bramiyavazukkai	<i>Bacopa monnieri</i>	Nandhiyavattam	<i>Tabernaemontana divaricata</i>	Irattaipeimarutti	<i>Anisomeles malabarica</i>
15	Arasu	<i>Ficus religiosa</i>	Malaivembu	<i>Melia azedarach</i>	Kalarva	<i>Salvadora persica</i>
16	Katukodi	<i>Cocculus hirsutus</i>	Karivembhu	<i>Murraya koiengii</i>	Adhatodai	<i>Justicia adhatoda</i>
17	Agathi	<i>Sesbania grandiflora</i>	Naval	<i>Syzygium cumini</i>	Venkodiveeli	<i>Plumbago zeylanica</i>
18	Aanaikatalai	<i>Agavae americana</i>	Paruthi	<i>Gossypium herbaceum</i>	Thara poo	<i>Fumaria parviflora</i>
19	Uthaamani	<i>Pergularia daemia</i>	peenaarimaram	<i>Sterculia foetida</i>	Punnai	<i>Calophyllum inophyllum</i>
20	Kaatuseeragam	<i>Vernonia anthelmintica</i>	Marudhu	<i>Terminalia arjuna</i>	Thaazai	<i>Pandanus odoratissimus</i>
21	Kotaikarandhai	<i>Spaeranthus indicus</i>	Thandri	<i>Terminalia bellirica</i>	Elathalari	<i>Plumeria rubra</i>

22	Amukara	<i>Withania somnifera</i>	Sarphagandha/ka ttupaambukala	<i>Rauvolfia serpentina</i>	Vallarai	<i>Centella asiatica</i>
23	Sivanthi/Samma nthipoo	<i>Chrysanthemum coronarum</i>	Yetti	<i>Strychnous nux-vomica</i>	Kudasapalai	<i>Holarrhena antidysentrica</i>
24	Brahmathandu/k udiyotipoondu	<i>Argemone mexicana</i>	Inji	<i>Zingiber officinale</i>	Kadukkai	<i>Terminalia chebula</i>
25	Maa	<i>Manigfera indica</i>	Thuthi	<i>Abutilon indicum</i>	Seenthil	<i>Tinospora cordifolia</i>
26	Palasu	<i>Butea monosperma</i>	Neermuli	<i>Hygrophila auriculata</i>	Seetha	<i>Annona squmosa</i>
27	Asogu	<i>Saraca asoca</i>	Kotaikarandhai	<i>Spaeranthus indicus</i>	Aanaipuliyamaram	<i>Adasonia digitate</i>
28	Illupai	<i>Madhuca longifolia</i>	Eeruku	<i>Calotrophis gigantea</i>	Kovai	<i>Coccinea grandis</i>
29	Naval	<i>Syzygium cumini</i>	Kalyanamuruku	<i>Erythrina variegata</i>	Mullikeerai	<i>Amaranthus spinosus</i>
30	Atthi	<i>Ficus racemose</i>	Kalarva	<i>Salvadora persica</i>	Sanbagam	<i>Michelia champaca</i>
31	Manthaarai	<i>Bauhinia purpurea</i>	Adhatodai	<i>Justiciaa dhatoda</i>	Nochi	<i>Vitex negundo</i>
32	Peekaruvell	<i>Acacia farnesiana</i>	Venkodiveeli	<i>Plumbago zeylanica</i>	Pirandai	<i>Cissus quandragularis</i>
33	Kalarva	<i>Salvadora persica</i>	Thara poo	<i>Fumaria parviflora</i>	Magil	<i>Mimosup elengi</i>
34	Munthiri	<i>Anacardium occidentale</i>	Seenthil	<i>Tinosporacordifolia</i>		
35	Paruthi	<i>Gossypium herbaceum</i>	Aanaipuliyamara m	<i>Adasonia digitata</i>		
36	Pannaikeerai	<i>Celosia argentea</i>	Mullikeerai	<i>Amaranthuss pinosus</i>		
37	Vilvam	<i>Aegle marmelos</i>	Pungam poo	<i>Pongamia pinnata</i>		
38	Bramiyavazukkai	<i>Bacopa monnieri</i>	Magil	<i>Mimosup elengi</i>		
39	Arasu	<i>Ficus religiosa</i>				
40	Katukodi	<i>Cocculus hirsutus</i>				
41	Agathi	<i>Sesbania grandiflora</i>				
42	Aanaikatalai	<i>Agavae americana</i>				

S.no	Mudhuvenil		Kaar		Koothir	
	Flowering plant name	Botanical name	Flowering plant name	Botanical name	Flowering plant name	Botanical name
1	Kalarchikodi	<i>Ceasalpinia bonduc</i>	Kalarchikodi	<i>Ceasalpinia bonduc</i>	Kelvaragu	<i>Elusine coracana</i>
2	Pathiri	<i>Stereospermum colais</i>	Nilavembhu	<i>Andrographis paniculata</i>	Thirunetrupachilai	<i>Ocimum basilicum</i>
3	Nilavembhu	<i>Andrographis paniculata</i>	Irattaipeimarutti	<i>Anisomeles malabarica</i>	Thakaali	<i>Physalis minima</i>
4	Serangkottai	<i>Semecarpus anacardium</i>	Athividayam	<i>Aconitum heterophyllum</i>	Nerunjil	<i>Tribulus terrestris</i>
5	Irattaipeimarutti	<i>Anisomeles malabarica</i>	Kaakanum	<i>Clitoria ternata</i>	Vishnukiranthi	<i>Evolvulus alsinoides</i>
6	Athividayam	<i>Aconitum heterophyllum</i>	Parangikaai	<i>Cucurbita maxima</i>	Punaikaali	<i>Mucuna pruriens</i>
7	Seetha	<i>Annona squamosa</i>	Ellu	<i>Sesamum indicum</i>	Uthaamani	<i>Pergularia daemia</i>
8	Nilapanaikizanghu	<i>Curculigo orchides</i>	Kelvaragu	<i>Elusine coracana</i>	Karimulli	<i>Solanum anguivi</i>
9	Kovai	<i>Coccinea grandis</i>	Thirunetrupachilai	<i>Ocimum basilicum</i>	Thuthi	<i>Abutilon indicum</i>
10	Sirukurinjan	<i>Gymnema syvestris</i>	Thakaali	<i>Physalis minima</i>	Imbural	<i>Hedyotisum bellata</i>
11	Thumbai	<i>Leucas aspera</i>	Nerunjil	<i>Tribulus terrestris</i>	Kundri	<i>Abrus precatorius</i>
12	Musumusukai	<i>Mukiama deraspatanum</i>	Sarakondrai	<i>Cassia fistula</i>	Pannaikeerai	<i>Celosia argentea</i>
13	Anatharathamaraai	<i>Pistia stratiotes</i>	Kadambu	<i>Anthocephalus cadamba</i>	Sivanarvembhu	<i>Indigo feraasthalpoides</i>
14	Vaagai	<i>Albizia lebbeck</i>	Kanthal/Kalapaikizanghu	<i>Gloriosa superba</i>	Mookiratai	<i>Boerhavia diffusa</i>
15	Kazuneer	<i>Nymphaea alba</i>	Kaaya/Kaasa	<i>Memecyclonum bellatium</i>	Neermuli	<i>Hygrophila auriculata</i>
16	Puli	<i>Tamarindus indica</i>	Umathai	<i>Datura metal</i>	Thaneervittankizanghu	<i>Asparagus racemosus</i>
17	Saalamisiri	<i>Orchis latifolia</i>	Kottam	<i>Costuss peciosus</i>	Sembarathai	<i>Hibiscus rosa-sinesis</i>
18	Kuppaimeni	<i>Acalypa indica</i>	Vishnukiranthi	<i>Evolvulus alsinoides</i>	Santhanam	<i>Santalum album</i>
19	Sanbagam	<i>Michelia champaca</i>	Sombhu/ Perunjseeragam	<i>Foeniculum vulgare</i>	Kunguma poo	<i>Crocus sativus</i>
20	Nochi	<i>Vitex negundo</i>	Paagal	<i>Momordica charantia</i>	Naanal/Tharupai	<i>Desmostachyabi pinnata</i>
21	Malligai	<i>Jasminum grandiflorum</i>	Punaikaali	<i>Mucuna pruriens</i>	Paarisatham/pavalamalli	<i>Nyctanthes arbortristis</i>

22	Pirandai	<i>Cissus quadrangularis</i>	Uthaamani	<i>Pergularia daemia</i>	Kaatuseeragam	<i>Vernonia anthelmintica</i>
23	Kodipasalaikeerai	<i>Basella alba</i>	Karimulli	<i>Solanum anguivi</i>	Kotaikarandhai	<i>Spaeranthus indicus</i>
24			Thuthi	<i>Abutilon indicum</i>	Sitramutti	<i>Sida cordifolia</i>
25			Imbural	<i>Hedyotisum bellata</i>	Sivathai	<i>Operculina turpethum</i>
26			Kundri	<i>Abrus precatorius</i>	Manipungu	<i>Sapindus laurifolia</i>
27			Thotaarsinungi	<i>Mimosa pudica</i>	Nanjaruppan	<i>Tylophora indica</i>
28			Elandhai	<i>Ziziphus mauriatiana</i>	Amukara	<i>Withania somnifera</i>
29			Pannaikeerai	<i>Celosia argentea</i>	Arasu	<i>Ficus religiosa</i>
30			Sivanarvembhu	<i>Indigofera asthalpoides</i>	Atthi	<i>Ficus racemosa</i>
31			Mookiratai	<i>Boerhavia diffusa</i>	Eeruku	<i>Calotrophis gigantea</i>
32			Kollukaaivaellai	<i>Tephrosia purpurea</i>	Mukulikeerai	<i>Portulaca quadrifida</i>
33			Thaneervittankizanghu	<i>Asparagus racemosus</i>	Katukodi	<i>Cocculus hirsutus</i>
34			Kunguma poo	<i>Crocus sativus</i>	Mullikeerai	<i>Amaranthus spinosus</i>
35			Sivathai	<i>Operculina turpethum</i>	Anatharathamara	<i>Pistia stratiotes</i>
36			Nanjaruppan	<i>Tylophora indica</i>	Kuppaimeni	<i>Acalypha indica</i>
37			Nilapanaikizanghu	<i>Curculigo orchides</i>	Kodipasalaikeerai	<i>Basella alba</i>
38			Sirukurinjan	<i>Gymnema syvestris</i>	Murungai	<i>Moringa oleifera</i>
39			Mullikeerai	<i>Amaranthus spinosus</i>	Kichlipalam	<i>Citrus aurantium</i>
40			Thumbai	<i>Leucas aspera</i>	Arivalmookupachilai	<i>Sida acuta</i>
41			Musumusukai	<i>Mukiama deraspatanum</i>	Paruppukeerai	<i>Portulaca oleracea</i>
42			Anatharathamara	<i>Pistia stratiotes</i>	Sirukanpeelai	<i>Aerva lanata</i>
43			Vaagai	<i>Albizia lebeck</i>		
44			Kuppaimeni	<i>Acalypha indica</i>		
45			Nochi	<i>Vitex negundo</i>		
46			Kodipasalaikeerai	<i>Basella alba</i>		
47			Murungai	<i>Moringa oleifera</i>		
48			Kichlipalam	<i>Citrus aurantium</i>		
49			Arivalmookupachilai	<i>Sida acuta</i>		
50			Paruppukeerai	<i>Portula caoleracea</i>		
51			Sirukanpeelai	<i>Aerva lanata</i>		

3.6 Summary of data management:



3.7 Quality assurance:

The quality of the study will be assured as the protocol of the study will be submitted in peer review board and expert's opinion are taken. The whole study will be conducted in supervision of faculties of the department and guide of the study.

3.8 Statistical analysis:

Both the data were statistically correlated in MS-Excel by Pearson correlation and strength of correlation was noted.

Deranged humours	Increase of humour in folds	Taste required in folds
Thannilai valarchi	1 PANGU	1
Vetrunilai valarchi	2 PANGU	2+1
Thannilai adaithal	0.5 PANGU	0.5

4. Observation and Results

The observed information and the obtained results are given below as tables and picture.

Pitham=Thee

Taste which pacifies pitham; Sweet, Astrigent, Bitter

4.1 Munpani kaalam:

During munpanikaalampitham is the deranged humour as per siddha literature.

Kaalam	Taste	Literature data	Obtained data
Munpani	Astringent	33%	32%
	Bitter	33%	36%
	Sweet	33%	21%

4.2 Pinpani Kaalam:

Kabham= Man+Neer

During pinpanikaalamkabham is the deranged humour as per siddha literature.

Taste Which Pacifies Kabham;
Pungent, Astrigent, Bitter

Kaalam	Taste	Literature data	Obtained data
Pinpani	Astringent	33%	30%
	Bitter	33%	34%
	Pungent	33%	13%

4.3 Illavenil Kaalam;

Kabham= Man+Neer.

During illavenilkaalamkabham is the deranged humour as per siddha literature.

Taste which pacifies kabham;
Pungent, Astrigent, Bitter

Kaalam	Taste	Literature data	Obtained data
Ilavenil	Astringent	25%	26%
	Bitter	25%	36%
	pungent	17%	9%
	salt	8%	0%
	sour	8%	2%
	sweet	17%	8%

4.4 Mudhuvenil kaalam:

Taste which pacifies vatham

During mudhuvenil kaalamvatham, kabham is the deranged humour as per siddha literature.

Sweet, Sour, Salt.

Vatham =Vali+Vin

Taste which pacifies kabham;

Kabham=Man+Neer

Pungent, Astrigent, Bitter

Kaalam	Taste	Literature data	Obtained data
Muthuvenil	Astringent	11%	8%
	Bitter	11%	26%
	Pungent	11%	9%
	Salt	22%	0%
	Sour	22%	2%
	Sweet	22%	13%

4.5 Kaar Kaalam;

During kaarkaalamvatham, pitham is the deranged humour as per siddha literature.

Vatham =Vali+Vin
Pitham=Thee

Taste which pacifies Vatham:
Sweet, Sour, Salt.

Tastes which pacifies pitham:
Sweet, Astrigent, Bitter

Kaalam	Taste	Literature data	Obtained data
Kaar	Astringent	19%	23%
	Bitter	19%	53%
	Pungent	7%	17%
	Salt	15%	0%
	Sour	15%	2%
	Sweet	26%	40%

4.6 Koothir kaalam;

During koothirkaalam, vatham,kabham is the deranged humour as per siddha literature.

Vatham =Vali+Vin
Pitham=Thee

Taste which pacifies vatham:
Sweet, Sour, Salt.

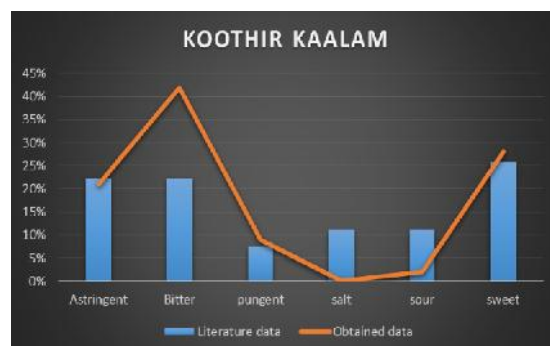
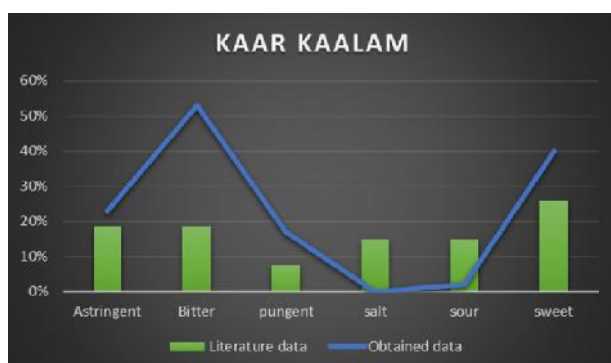
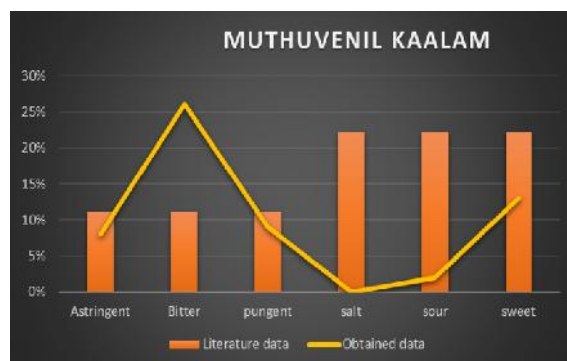
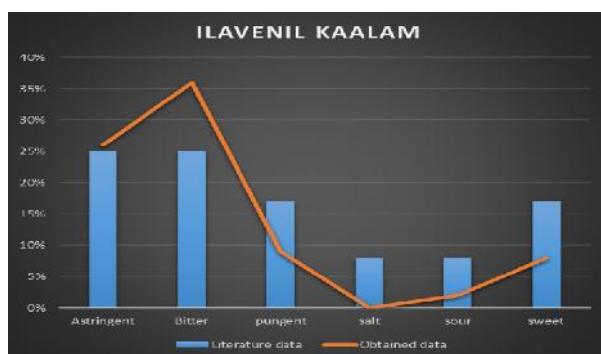
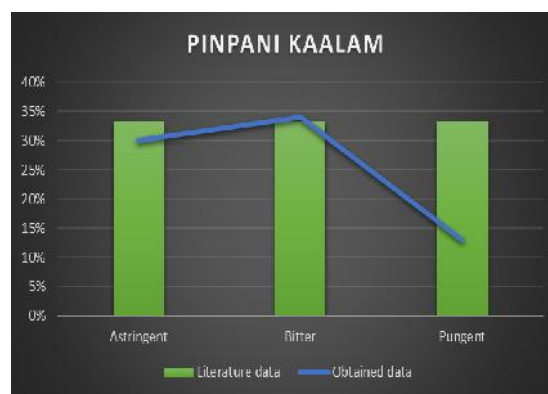
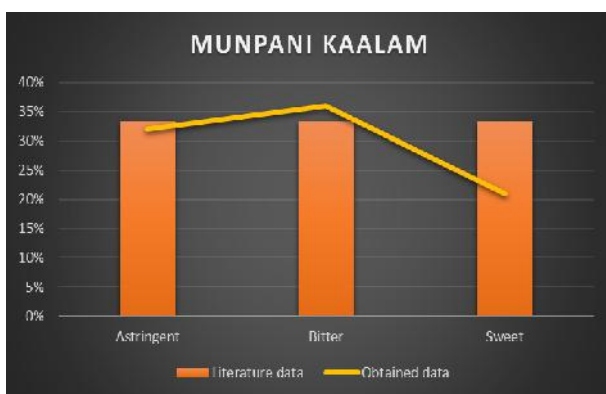
Tastes which pacifies pitham:
Sweet, Astrigent, Bitter

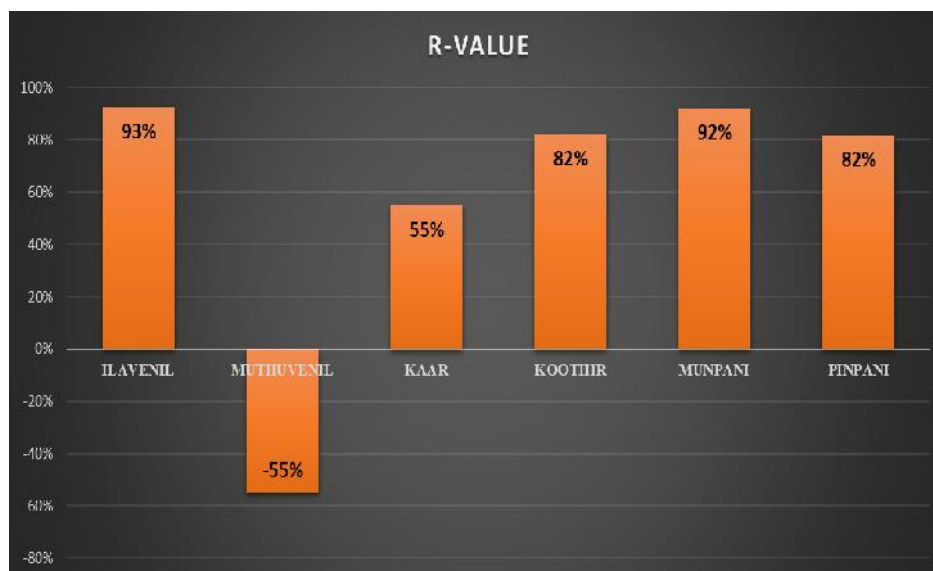
Kaalam	Taste	Literature data	Obtained data
Koothir	Astringent	22%	21%
	Bitter	22%	42%
	pungent	7%	9%
	salt	11%	0%
	sour	11%	2%
	sweet	26%	28%

Results:

Kaalam	R-Value	R-Value in %
Ilavenil	0.926192	93%
Muthuvenil	-0.54913	-55%
Kaar	0.549156	55%
Koothir	0.818923	82%
Munpani	0.919482	92%
Pinpani	0.815603	82%

Kaalam	R-Value in %	Strength of correlation
Ilavenil	93%	Strong positive correlation
Muthuvenil	-55%	Strong negative correlation
Kaar	55%	Strong positive correlation
Koothir	82%	Strong positive correlation
Munpani	92%	Strong positive correlation
Pinpani	82%	Strong positive correlation





5. Summary:

This study was intended to create scientific evidence behind the siddha theory “**KAALAOZUKKAM**”

The target is achieved by correlating the taste of seasonal flowers with humoral derangements of particular seasons.

Seasonal humoral derangements are collected from siddha literatures.

The data was collected from siddha literature, key informers, official website – FRLHT.

Data is entered, analysed and aggregated by MS – EXCEL 2016.

Data were correlated statistically.

Out of 6 seasons correlated with siddha literature , 5 shows strong positive correlation and 1 shows strong negative correlation.

6. Discussion

The results of the current study indicates that the concept of **KAALAOZUKKAM** has strong scientific background.

The result of strong positive correlation provides a strong evidence to the theory “**ANDA PINDAM THATHUVAM**” AND “**UNAVE MARANTHU, MARUNTHAE UNAVU**”

Results were obtained by correlating tastes of seasonal flowers and their role in pacifying seasonal humoral derangement.

The Weak or negative correlation may be due to environmental factors or diseases due to lifestyle modifications or may be due to improper values assigned.

If the assumed and assigned values were furnished more, the results will be more appropriate.

Further studies have to be carried out to validate the values and assumption made on literatures.

7. Conclusion

This study is believed to enhance the therapeutic approach of siddha physicians.

Educating public about seasonal preventives and adaptive measures by placing displays or posters, in government siddha medical college and hospital, Palayamkottai.

It will serve as a scientific evidence to educate the society to follow the adaptive measures and preventive measures to be followed during seasonal variations as per the siddha literatures.

This study may be taken as an initial step in providing siddha concepts to the scientific community. Further studies or researches have to be conducted to show our integrity and history to the scientific world in a powerful way.

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	Subject: Siddha Medicine
Quick Response Code	
DOI: 10.22192/ijcrps.2021.08.03.003	

How to cite this article:

N. Bharathi and M. Krishnayini. (2021). A Literature review on role of seasonal flowers in neutralizing derangements of three humours. *Int. J. Curr. Res. Chem. Pharm. Sci.* 8(3): 17-28.

DOI: <http://dx.doi.org/10.22192/ijcrps.2021.08.03.003>