

**ANALYTICAL STUDY TO ESTABLISH THE RELATION BETWEEN
SATMYA & BALA IN HEALTHY INDIVIDUALS**

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ABSTRACT

Satmya an important and a unique concept which is indeed given less attention. Many researches have been done on Bala and Satva, Bala and Saar, on Samhanan, individually on Bala but up till now no one had even touched the present subject that is "Analytical study to establish the relation between Satmya and Bala in healthy individuals." This unique concept of Dashvidh Pariksha which includes Prakriti, Vikriti, Saar, Samhanan, Praman, Satmya, Satva and many more indeed needs attention. Among these 'Satmya' an important concept which is always given less attention. Now a days for the ease of life style man is acquiring suitability's in each and every field. According to Ayurveda, the thing which suits the individual is known as Satmya. Or the thing which is always accustomed is called as Satmya. It is basically the wholesome familiarization to food and food combination.

As described previously Satmya an important and investigable concept in providing the medicine and diet. Caraka mentioned about the one who is used to consumes Sarv rasas is Balwan or healthy and the one who used to consume ek ras is Durbal or weak. It means that Sarv ras Satmya individuals has Uttam Bala and that of one ras Satmya has Heen bala. This shows that Satmya is directly proportional to Bala. Acharyas has stated that one should not directly judge the person's weakness or strength by just merely having a look on the buildup of that individual but it depends on Satmya. It means that Satmya is diagnostic criteria for Bala. Therefore, for the determination of Balwan and Durbal, the Bala should be estimated

with the help of Vyayam Shakti, which is carried out by using physical fitness test that is Harvard Step Test. Here the one gets the idea of interdependibility of Satmya & Bala means the individual having Pravara Satmya will have Uttam Bala, Madhyam Satmya will have Madhyam Bala and with Avar Satmya will have Heen Bala.

KEYWORDS: Among these 'Satmya' an important concept which is always given less attention.

INTRODUCTION

Ayurveda the life science, always believes in knowledge-based action that is Dnyanpurvak Karma.^[1] To fulfill the ultimate aim of Ayurveda that is Dhatusamyatva, knowledge-based action is necessary. To achieve the knowledge-based action, 10 folded examinations is explained by Caraka. This unique concept of Dashvidh Pariksha which includes Prakriti, Vikriti, Saar, Samhanan, Praman, Satmya, Satva^[2] and many more indeed needs attention. Among these 'Satmya' an important concept which is always given less attention.

Now a days for the ease of life style, the man is acquiring suitability's in each and every field. According to Ayurveda, the thing which suits the individual is known as Satmya.^[3] Or the thing which is always accustomed is called as Satmya. It is basically the wholesome familiarization to food and food combination. As described previously Satmya an important and investigable concept in providing the medicine and diet. Caraka mentioned about the one who is used to consumes Sarv rasas is Balwan or healthy and the one who used to consume ek ras is Durbal or weak.^[4] It means that Sarv Ras Satmya individuals has Uttam Bala and that of one ras Satmya has Heen bala. This shows that Satmya is directly proportional to Bala. Acharyas has stated that one should not directly judge the person's weakness or strength by just merely having a look on the buildup of that individual but it depends on Satmya. It means that Satmya is diagnostic criteria for Bala.

Therefore, for the determination of Balwan and Durbal, the Bala should be estimated with the help of Vyayam Shakti,^[5] which is carried out by using physical fitness test that is Harvard Step Test. Here the one gets the idea of inter-dependability of Satmya & Bala means the individual having Pravara Satmya will have Uttam Bala, Madhyam Satmya will have Madhyam Bala and with Avar Satmya will have Heen Bala.

1) PRIMARY OBJECTIVE

- i. To study the relation between Satmya and Bala.

2) SECONDARY OBJECTIVES

- i. To study the concept of Satmya.
- ii. To study the concept of Bala.
- iii. To study the interdependibility of Pravara Satmya with Uttam Bala, Madhyam Satmya with Madhyam Bala, Avar Satmya with Heen Bala.

RESEARCH QUESTION- Does there is relation between Satmya and Bala.

METHODOLOGY- Study setting (Location)-100 healthy individuals have been taken from our area.

- 1) Study duration- Total duration of study will be 18 months.
- 2) Study Population/Books -100 healthy individuals.

Books-Different types of Satmya and Bala were studied from.

- a) Charak samhita,
- b) Sushrut samhita,
- c) Ashtang hriday,
- d) Ashtang sangrah,
- e) Chakrapaani comentary,
- f) Dalhan comentary,
- g) Hemadri comentary,
- h) Sharir kriya vidnyan.

- 3) Sample size -100 healthy individuals.
- 4) Sampling technique-100 Healthy were selected by simple randomized sampling technique.
- 5) Method of selection of study
 - a) Inclusive criteria
 - Simple randomized 100 healthy individuals of age group between 18-25 years will be selected.
 - (Bala is also dependent on age, therefore to nullify the age with Bala selected age group is taken)
 - b) Exclusive criteria

- Rutu, desh, oke Satmya was not considered.
- c) Withdrawal criteria-Person who is intolerable to Bala Prikshan.
- 8) Operational definitions
 - Satmya- Satmya means the thing which suits the individual.
 - Bala- Bala means the strength of the body which will be diagnosed by Vyayam Shakti, Where Vyayam Shakti means the movements of body that produces firmness and strength.
 - Healthy individuals- Disease free individuals with normal Height and Weight
- 9) Methods of measurement
 - For estimation of Satmya-Questionnaires were filled.
 - For estimation of Bala-Harvard step test were done.
- 10) Study instruments
 - Stop watch,
 - Metronome,
 - Gym bench

For females-18 inch high
For males -20 inches high

11) Methods of Data collection

-Data was collected with the help of questionnaires specially designed for Satmya, six questions were of 6 Rasas, 4 questions for dravya and 1 question for Gun which was derived from Vimansthan. There were total 11 questions.

CRITERIA FOR ASSESSMENT OF SATMYA

Satmya pariksha of every individual will be made by filling questionnaires which is specially designed, and filling Satmya index chart.

1. SATMYA INDEX CHART

Table No. 1.

SUITS	YES	NO
RASAS		
MADHUR/SWEET	1	0
AAML/SOUR	1	0
LAVAN/SALTY	1	0
KATU/PUNGENT	1	0

TIKT/BITTER	1	0
KASHAY/ASTRINGENT	1	0

Table No. 2.

SUITS	YES	NO
DRAVYA		
GHRIT/GHEE	1	0
KSHEER/MILK	1	0
MANS/MEAT	1	0
TAIL/OIL	1	0

Table No. 3.

SUITS	YES	NO
GUN		
SNIGDH/UNCTUOUS	1	0

TOTAL SCORE-11 GRADATIONS FOR SATMYA

Table No. 4.

GRADE 1	PRAVAR SATMYA	>9
GRADE 2	MADHYAM SATMYA	6-8
GRADE 3	AVAR SATMYA	<5

CRITERIA FOR ASSESSMENT OF BALA

-Bala pariksha will be done by Vyayam Shakti.^[6]

-Vyayam Shakti means the bodily movements that produce the firmness and strength in the body.^[7]

-Therefore, for the assessment of Bala, Harvard step test will be done.

Fatigue index=Duration of exercise in seconds/2*(Sum of A+B+C) *100

Table No. 5.

GRADE 1	90 & ABOVE 82-89	EXCELLENT GOOD	UTTAM BALA
GRADE 2	65-79 54-64	AVERAGE LOW AVERAGE	MADHYAM BALA
GRADE 3	BELOW 55	POOR	HEEN BALA

OBSERVATION

Table No. 6: Satmya wise distribution.

SATMYA	FREQUENCY	PERCENTAGE
AVARA	5	5.00
MADHYAM	29	29.00
PRAVARA	66	66.00
TOTAL	100	100.00

Among 100, healthy individuals, 66% population was having Pravara Satmyata, followed by 29% with Madhyam Satmyata, followed by 5% with Avar Satmyata.

Table No 7: Bala wise distribution.

BALA	FREQUENCY	PERCENTAGE
HEENA	28	28.00
MADHYAM	72	72.00
UTTAM	0	0.00
TOTAL	100	100.00

Among 100 healthy individuals, 72% population was found to have Madhyam Bala, and 28% was found to have Been Bala. No individual was found to have Uttam Bala.

Table No. 8: Satmya and Bala association.

			BALA		TOTAL
			HEENA	MADHYAM	
SATMYA	AVARA	Count	5	0	5
		%	17.9%	.0%	5.0%
	MADHYAM	Count	16	13	29
		%	57.1%	18.1%	29.0%
	PRAVARA	Count	7	59	66
		%	25.0%	81.9%	66.0%
TOTAL		Count	28	72	100
		%	100.0%	100.0%	100.0%

Now observing the correlation between Satmya and Bala, it is observed that 17.9% of Avar Satmya people was found to have Heen Bala, 57.9% population of Madhyam Satmyata was having Madhyam Bala, and 18.1% was found having Been Bala, and 25% of Madhyam Satmya was found to have Madhyam Bala, 25% of Pravara Satmya was having Heen Bala, 81.9% Pravara Satmya was found having Madhyam Bala.

Table No. 9. Test.

	Value	df	P-Value
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Pearson Chi-Square	33.383	2	<0.001
N of Valid Cases	100		

Since observations are qualitative, we have used Chi-Square Test to test association Between Satmya and Bala. From above table we can observe that P-Value is less than 0.001. Hence, we conclude that there is high degree of association between Satmya and Bala.

DISCUSSION

1. DISCUSSION ON SATMYA AND BALA

Multifactorial study is always necessary for Vaidyas. This habit of multifactorial study is helpful for fulfilling the Ayurveda's aim that is & quote; SWASTHASYA SWAASTHYA RAKSHANAM AND AATURASYA VIKARO PRASHAMANAM CHA; This factor is enlisted in various quotes in Carak Samhita. For example, in Vimansthana 1st[8] to explain the necessity of Vimansthana these factors are quoted and also in Kalpasthana 1st[9] same factors are quoted again just to achieve Samyag Yogas of Panchakarma. Even in Aatur Pariksha there are 10 factors and Satmya is enlisted in above said verses and also Satmya Balapekshi diet is mentioned in various Vyadhis. Satmya can be extended as Upashaya which acts as a diagnostic factor in Nidanpanchak and also useful in understanding & quote; Gudhaling Vyadhi^[10] & There are 18 types of Upashaya is nothing but Vyadhi Satmya.^[11] So, when one study about Satmya various aspects of Satmya are found in Samhitas, mainly in original text Trividh Satmya that is Pravar, Madhyam, Avar is highlighted.^[12] Sometimes Chaturvidh Satmya^[13] is also explained. In Chaturvidh Satmya type, Oka Satmya^[14] is condition giving importance to individuality. The Satmya which is considered as unhealthy can be accustomed to some person because of regular consumption. This type of Satmya is one of the main answers to the question that why Viruddh Aahar is not harmful to everyone (Viruddham Vitatham Bhavet).^[15] Here Oka Satmya fulfills only the condition of happiness and they may be harmful to health. For example, daily alcohol consumption by a drunkard. Alcohol consumption is Oka Satmya to him, but it is not good for health, it gives him temporary pleasure. So, in the conceptual part when we studied about the etymology Satmya is ~ Sukha.^[16] The only meaning of happiness applies here, but by applying Swasaudnya Tantrayukti. Sukha means also Aarogya.^[17] So, it's a physician's duty to shift unhealthy habits which has been accustomed as Oka Satmya to Aarogyadayi Satmya. In this context Padanshik Kram is explained in Samhitas, which indicates that one should move from unhealthy habit towards healthy habits slowly and not suddenly, otherwise Asatmyaj Vyadhis

due to sudden change in habits may occurs.^[18] Same concepts are applied for change in Rutusatmya. Similarly, and unknowingly we use this concept in various places for e.g. when a child is newborn, it is Ksheerad after 6 months it is Ksheerannad and slowly it is turned to Annad. Even after Panchkarma Samsarjan Krama is given, so that it should be Agnisatmya, in today's era also, concept of Satmya is very much important Commentator Arundatta has explained about Krutrim and Akrutrim,^[19] where Krutrim Satmya is acquired Satmya which now a days we are facing. Pizza, bread, Chinese diet which are not Desha Satmya for Indians are now becoming Krutrim Satmya. The effects of this will be observed in next few years. Contributor Dalhana has also mentioned various types of Satmya among which Jal Satmya is very important. There is disease caused by hampered Jal Satmya. For e.g. many persons complain of hair fall after shifting to new place. In short concept of Satmya is explained in various discrete places in Brihatrayee. One has to apply Shila-Unchvritti; adopted by Dridhabala to understand concept of Satmya. and contribution of commentator in enlisting various factors cannot be neglected. There are 26 types of Satmyas mentioned in Brihatrayee along with their commentaries. A significant point was noted while classifying Satmya that Prakriti Satmya is powerful than Desha Satmya, Dosh Satmya is stronger than Prakriti Satmya, Vyadhi Satmya is powerful than Dosh Satmya.^[20] This means Vyadhi Satmya is strongest among all. When it comes into assessment of Satmya, The Pravar, Avar and Maddhyam Satmya are mentioned by Caraka and Vagbhata. These Satmyas are based on Ras, Dravya and Gun^[21] on which our questionnaire is based to understand the Satmya index of the individual. Bala is also a factor which was the part of multifactor mentioned in, C.V.1, C.V.8, C.K.1, now here research question that Why Bala is dependent on Satmya? as Satmya is based on the consumption of Rasas and Ras are Panchabhautik in nature (A.H.10). Each Ras shows dominance of 2-2 Mahabhutas (6 Ras and Panchmahabhut) That means consumption of all Rasas to maintain the health because if the people avoids a Rasa those Mahabhutatmak Bhavas will be weakened. Similarly, Ras Dosha Sambadhan is also mentioned in Samhitas.^[22] So the healthy person consuming all Rasas will automatically the Dosha Samyata resulting in Uttam Bal. Secondly Shadarasatmak diet is only balanced diet because many vitamins are related to many Rasas e.g. Vit C which is observed in Citrus Fruits is related to Aml Ras. There are many antioxidants which are abundant in Tikta-Kashayatmak diet. For e.g., Bitter guard. Hence Satmya and Bala can be correlated theoretically. so, its ascendant was done practically through this study many individuals were shown Asatmya to single Ras among which Aml Ras Asatmya individuals were maximum in number, Madhur Ras is explained as Ajanma Satmya but still 7% of individuals

have mentioned it as Asatmya for them. For the present study. Bala is the physical strength explained above. Bala of the individual is Anumangammya Bhav which can be estimated by Anuman from the Vyayam shakti of individuals.^[23] Bala has also various aspects like Satmya. It is dependent of Vaya, Rutu, Desha and many more factors. As here these 2 variables were correlated in order to, nullify other variable the study was conducted on Youth. In single Rutu that is Vasanta which is Madhyam Bala Rutu^[24] as per Samhitas and individuals residing in same areas. Bala should be assessed by Vyayam Shakti and Vyayam are various movements causing Aayas to body.^[25] Harvard Step Test^[26] was one of such tests which was a standard modern method to estimate strength. this includes the exertion by exercising on gym bench and fatigue index is calculated. On assessment of Bala through Harvard step test in the study it was observed that, no individuals were found in Uttam Bala. The reason behind this may been listed as the population under study was living in the hostels, so quality of food consumed by them may be hampered and food like junk foods may cause Bala Hani. secondly the Harvard step test was based on Athletes but no individuals in the present study was doing exercise regularly here a study test based on Ardhashakti Vyayam has mentioned in Ayurveda^[27] should be developed which is a scope for further study. Most of the Pravar Satmya individuals were showing Madhyam Bala and all Avar Satmya individuals have Heen Bala which were indicative of positive Satmya-Bala association, which was proven with Chi Square Test. In the present study 100 healthy individuals were assessed for Satmya and Bala.

2. DISCUSSION ON OBSERVATION

- 1) **Age** - As our inclusive criteria was concentrated on Youth, because this age is considered as having Uttam Bala. Caraka has mentioned Tarunavastha at the age of 30-60, but in today's era the changing life style has induced aging effects and so, now a day's youth is considered mainly in 18-25 age group. Secondly, this is age group of students and mostly they don't have stress for earning in this age and we can consider this age and we can consider this age group as healthy.
- 2) **Sex** - Female predominance is found.
- 3) **BMI** - Maximum number of people falls in healthy BMI (18.5-24.5) indicates the healthy status and also according to Ayurveda we can considered it as Maddhyam Praman (neither Sthool nor Krush).
- 4) **Appetite/Sleep** - Maximum number of people were having good to moderated appetite (34+59) which is again indicative of good health. Similarly, maximum number of people

were having good to moderate Sleep. Sleep is considered as one of the Upastambh. Aahar and Nidra are two important pillars of Trayopstambh.

5) **Sharir Prakriti**- Maximum number of individuals falls under Pitta- Kapha Prakriti.

6) **Agni**- Maximum number of people falls under Tikshna Agni.

3. NOW COMING TO SATMYA OBSERVATION,

1) Ek Ras Asatmya- Aaml Ras Asatmyata found common, but to the surprise Madhur Ras which is mentioned as Aajanjn Satmya, 7% individuals shown Madhur Ras Asatmyata where the individual's complaint of headache and heaviness after consumption of Madhur Ras. This may be because of sedentary life style.

2) In 100 healthy individuals 66% individuals were having Pravar Satmya, 29% with Madhyam Satmya and 5% were showing Avar Satmya. In 66% of Pravar Satmya individuals 33 were males and the rest were females. In Avar Ras Satmya 2 were males 3 were females.

3) Satmya is very individuals' concept and Purusham Purusham Viksham Sidhant applies here. So Satmyata of every individual may vary, this group of youth is mainly showing Pravar Satmyata.

4) Bala - among 100 individual's 72% were found having Madhyam Bala. To the surprised no individuals were having Uttam Bala. This is again indicative of change in lifestyle (sedentary job, lack of exercise, junk food consumption which is very common in this age group)

5) **Correlation between Satmya and Bala** - this table is very important considering our research question. No individuals were found to have Uttam Bala. Maximum number were having Pravar Satmya. Pravar Satmya and Madhyam Bala, and Avar Satmya and Heen Bala were found associated indicating rejection of Null Hypothesis that there is no significant correlation between Satmya and Bala and acceptance of Alternative Hypothesis that there is significant correlation between Satmya and Bala.

CONCLUSION

- 1) It is concluded that Satmya and Bala are significantly correlated with each other.
- 2) Maximum population were showing Pravar Satmyata.
- 3) No individual was found to have Uttam Bala.
- 4) In Ek-Ras Asatmyata, Maximum population was found to have Aaml Ras Asatmyata.
- 5) Few numbers of people were showing Madhur Ras Asatmyata.
- 6) Good Sleep is associated with Pravar Satmyata and Madhyam Bala.

- 7) Good Appetite is associated with Pravar Satmyata and Madhyam Bala.
- 8) Maximum population was found to have the BMI between 18.5-24.9.
- 9) Pitta-Kapha Prakriti was associated with Pravar Satmyata and Madhyam Bala.
- 10) Tikshnagni was associated with Pravar Satmyata and Madhyam Balata.

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