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Comparative study of assessment of Medha in pitta pradhan and vada pradhan Prakruti individuals

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Abstract

Human beings distinguish themselves from other animals in possessing well developed brain with higher intellectual functions. Intelligence is an important aspect of human personality. The widely accepted meaning of intelligence is the ability to see meaningful relationships between the things. It includes perceiving, knowing, reasoning and remembering. To assess Medha (Intelligence), there are intelligence tests explained in modern science (In this project Medha was assessed with "S.K. Pal & K.S. Misra test", which is described in methodology). Medha is one of the important characters explained in 'Prakruti' (Body constitution). Prakruti is the relation of three Doshas with human body from the time of conception.

Keywords: Prakruti, Medha, intelligence

Introduction

Prakruti is fundamental concept of Ayurveda. There are physiological, Anatomical and psychological features of Prakruti which are described in compendia. Lot of research has been done on physiological and Anatomical features of Prakruti, but this is not same for psychological features. This project is designed to revalidate the psychological features of Prakruti, that is "Medha" (Intelligence) in Prakruti and bring the concept in light.

The word Medha denotes intellect. Medha can be taken as Grahanshakti (Grasping power) and Dharanshakti (understanding any subject). It also gives power of decision making. In modern science, there are tests, which can assess Medha are 'Intelligence test' [1].

Intelligence- 'Medha' [2].

Prakruti is fundamental concept of Ayurveda, which is present since birth and doesn't change throughout life. Prakruti is formed when Shukra (sperm) and Shonita (ovum) get fused with each other. Predominance of Dosha in Shukra and Shonita decides the Prakruti of an individual. Prakruti is one's own constitution and attitude. It is an expression of functions of human body in the form of physiology, external characters, and behavior of an individual.

There are many references in compendia, which strongly shows the relation between Prakruti and Medha. According to Sushruta, Pittaprakruti individuals are 'Medhavi' (Intelligent) and Vata Prakruti individuals are said to have characteristics - Adhruti (less grasping power) and a vyavasthit mati (mind is never steady). So this project is designed to revalidate the textual reference in Ayurvedic compendia. For this purpose, Medha of Pitta and Vata prakruti individuals has been assessed and compared.

	Charaka [3].	Sushruta [4].	Vagbhata [5].
Vataprakruti	Alpasmruti (less memory)	Adhruti Avyavasthitmati	Chaladhrti (less grasping power) Chalasmruti (less memory)
Pittaprakruti	-	Medhavi (Intelligent) Nipunmati (Clever)	Medhavi

All above references strongly suggest that, Pittaprakruti individuals are Medhavi (Intelligent) [6]. Intellect is a term used in studies of human mind and refers to the ability of the mind to come to correct conclusions about what is true or real, and about how to solve problems.

Physiology of Intelligence

There are many functions performed by human brain, one of the very important function is intellectual function. Intellectual functions are performed by prefrontal cortex.

Prefrontal cortex

Prefrontal cortex is also called as, 'silent area', 'Association area', 'Organ of mind'. Area of prefrontal cortex- 9, 10, 11, 12, 13, 14, 23, 24, 29, 32.

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Functions of prefrontal cortex

1. Prefrontal cortex is associated with emotion, learning, memory and social behavior.
2. This area act as center for actions on planned ideas.
3. Prefrontal cortex is also called as ‘organ of mind’, because it forms seat of intelligence.
4. This area is responsible for maintenance of personality of an individual [7].

Wernick’s area (Auditory Psychic Area)

Wernick’s area (area 22) performs its functions by language. Sensory intellectual experience is firstly converted into language and then it processed into motor experience as intellectual functions. When we read some texts, the memory stores in brain in language form not directly as printed image. We do not store the images of words but instead of that we store the words in language form. This function of conversion of words into language form as a memory is done by Wernick’s area. If an injury to Wernick’s area in the dominant

hemisphere, then a person normally loses all intellectual functions. Mainly loses intellectual functions related with language or verbal symbolism. Person may lose ability to read, to perform mathematical operations and also loses ability to think about logical problems [8].

Intelligence Quotient

“An intelligence quotient is a person’s mental abilities relative to others of approximately same age. Everyone has hundreds of specific mental abilities; some can be measured accurately and are reliable predictors of academic and financial success”. Intelligence quotient is improvement over the concept of mental age. It is calculated by dividing the mental age by chronological age and multiplying by 100.

$$\text{Intelligence Quotient} = \text{mental age} / \text{chronological age} \times 100$$

Level of intelligence

There are some levels of intelligence explained in textbook (K. Park), which is as follows [9].

Level of intelligence	IQ score
Idiot	0-24
Imbecile	25-49
Moron	50-69
Borderline	70-79
Low normal	80-89
Normal	90-109
Superior	110-119
Very superior	120-139
Near genius	140 and over

Aim

To assess Medha in Pitta Prakruti.

Objectives

1. To study the concept of Medha and Prakruti from Ayurvedic literature.
2. To study the modern literature for Intelligence.
3. Assessment of Prakruti with the help of standard Prakruti examination proforma.
4. Assessment of Medha with the help of IQ TEST (S. K. Pal and K. S. Misra test, National Psychological Corporation).

Methodology

Selection criteria:-Assessment of more than 150 volunteers was done for Prakruti Parikshan, till target population was achieved.

Target population

- 40- Pitta dominant prakruti individuals (Study group)
- 40- Vata dominant prakruti individuals (Control group)

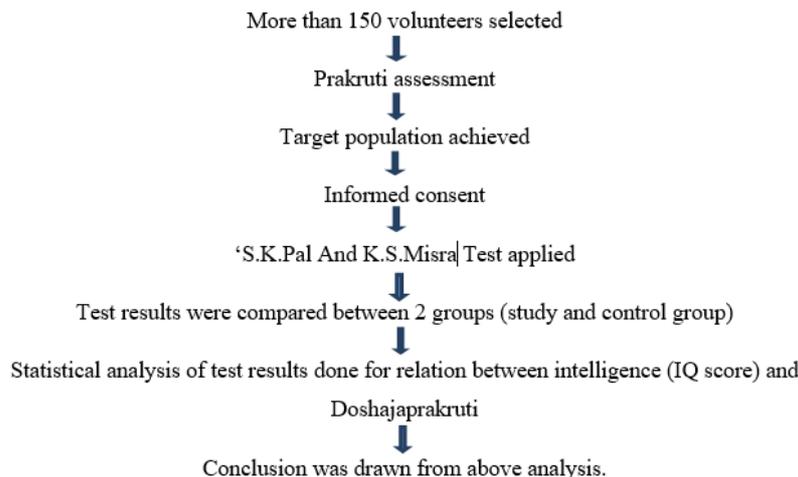
Inclusion criteria

- Age: 18 to 40 years of healthy volunteers.
- Sex: both genders.
- Education: college going students were included.

Exclusion criteria

- The individuals having any major disease or illness or on any type of medications.
- Age: Medha (intelligence) get declined after 40 years of age, hence volunteers beyond 40 were excluded [10]. Illiterate people were excluded.

Steps in study



Details of ‘S. K. Pal and K. S. Misra Test’

The intelligence test used in this study is ‘S.K.PAL AND K.S.MISRA TEST’ (Test of general intelligence for college students). This test is recognized by National Psychological Corporation, Agra. This test is used to measure the intelligence of graduate and postgraduate students. Total time required to solve the test is 40 minutes. The test includes 6 subtests;

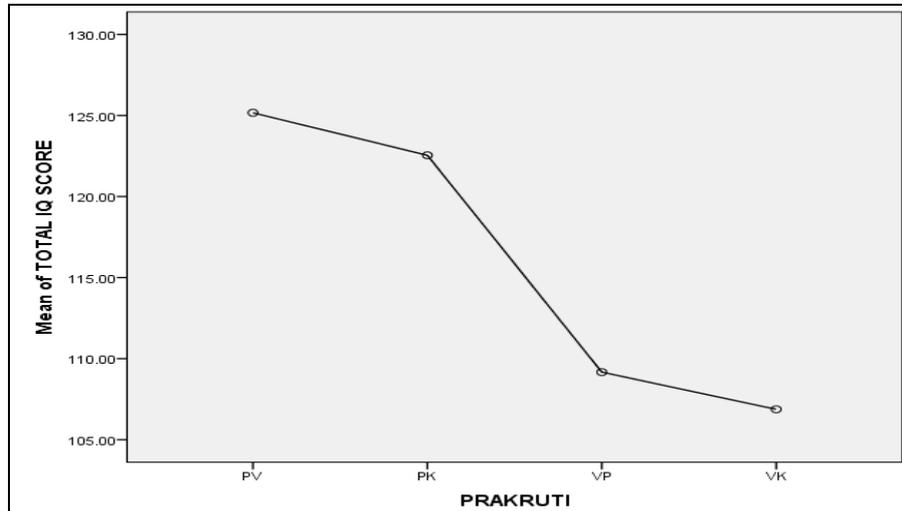
Subtest

1. Word Meaning

2. Analogy
3. Classification
4. Number Series
5. Code Transformation
6. Syllogism

Each subtest consists of 10 questions, total 60 questions are given. So marks obtained out of 60 (1mark to each question). According to marks obtained IQ score is estimated.

Observations



PV- Pittapradhan (Pitta dominant) Vata Anubandh (Vata recessive)
 PK- Pittapradhan (Pitta dominant) Kapha Anubandh (Kapha recessive)
 VP- Vadapradhan (Vata dominant) Pitta Anubandh (Pitta recessive)
 VK-Vadapradhan (Vata dominant) Kapha Anubandh (Kapha recessive).

The graph clearly shows that the average total IQ score is higher for Prakruti PV (pitta dominant vata recessive); then it decreases slightly for Prakrutui PK (pitta dominant kapha recessive). It further reduces for Prakruti VP (vata dominant pitta recessive) & reduces slightly again for Prakruti VK (vata dominant kapha recessive).

Most of individuals of Vadapradhan (vata dominant) prakruti had an IQ score in range of 90-119, which is normal level of intelligence. The most of the individuals of Pittapradhan (pitta dominant) prakruti had an IQ score in range of 120-132, which indicates superior level of intelligence. This observation shows that, the Pittapradhan Prakruti individuals are more intelligent than Vadapradhan Prakruti individuals.

Results

1. There is significant difference between intelligence test scores of the study group (Pittapradhanprakruti) and control group (Vadapradhan Prakruti). This is depicted by One Way Annova Test. This implies that Pittapradhan Prakruti individuals are Medhavi than Vadapradhan Prakruti individuals.
2. The four subgroups of Prakruti, when compared among themselves in intelligence test scores differ significantly.
3. The test scores are highest for Prakruti PV, then for Prakruti PK, it then further reduces for Prakruti VP and least for Prakruti VK.

Discussion

Intelligence is a very important aspect of human life. It plays important role in normal routine life, for learning, for growing children, for profession, career in any field. Ayurvedic compendia have very good description of intelligence as

‘Medha’. This project is designed to revalidate the Ayurvedic proposals of intelligence (Medha) in a Prakruti and to bring the concept in light.

The method of study was observational. First, near about 150 volunteers were screened for required Prakruti involved in study. Then all the selected volunteers (80) were divided into 2 groups, and then subjected to ‘S.K. Pal and K.S. Misra Test’. IQ score was estimated of all volunteers. Then, comparison between two groups, study group (Pittapradhan Prakruti) and control group (Vadapradhan Prakruti) done by statistical analysis.

The individuals of Pittapradhan Prakruti (PV and PK) were selected for study group. The control group consists of Vadapradhan Prakruti individuals (VP and VK).

Study group- PV and PK

Control group- VP and VK.

S. No.	Group	Number of individuals
1	Pitta vata (PV)	18
2	Pitta kapha (PK)	22
3	Vata pitta (VP)	24
4	Vatakapha (VK)	16

Pitta Vata individuals had total IQ score 125.17 and Pitta Kapha individuals had total IQ score 122.55. In this group Pitta Vata had IQ score more than Pitta Kapha, it may be due to Anubandh of Vata, which having Shighra (fast) Guna and due to teekshna (sharp) Guna of Pitta Dosha which is dominant.

Vata Pitta individuals had total IQ score 109.17 and Vata Kapha individuals had total IQ score 106.88. In this group Vata Pitta had IQ score more than VataKapha.

In this study, it is observed that, Pittapradhan individuals had IQ score more than Vadapradhan Prakruti individuals.

The intelligence test used in this study is 'S.K.PAL AND K.S.MISRA TEST' (Test of general intelligence for college students). This test is recognized by National Psychological Corporation, Agra. This test contains 6 subtests; the results obtained are as follows;

Subtest-1 (Word Meaning)

Subtest 1 is related with the ability of telling meaning of words. The average score is highest for Prakruti PV(6); then for Prakruti PK(5.59). It further reduces for Prakruti VP (4.88) & it is least for Prakruti VK (4.13).

Subtest-2 (Analogy)

This test is related with the ability of analytical thinking. The test is about to find similar relation between two things. The average score is highest for Prakruti PV (8.17); then for Prakruti PK (7.77). It further reduces for Prakruti VP (7.38) & it is least for Prakruti VK (6.81).

Subtest-3 (Classification)

This test is related with classification ability. The average score is highest for PRAKRUTI PV (6.94); then for Prakruti PK (6.45). It further reduces for Prakruti VP (5.58) & remains same for Prakruti VK (5.63).

Subtest-4 (Number Series)

This test is related with numerical ability. The average score is higher for Prakruti PV (9.44); then it remains same Prakruti PK (9.55). It further reduces for Prakruti VP (8.00) & remains same for Prakruti VK (8.19).

Subtest-5 (Code Transformation)

This test is related with the ability of code transformation. The average score is higher for Prakruti PV (7.61); then it increases slightly for Prakruti PK (7.91). It further reduces for Prakruti VP (6.29) & remains same for Prakruti VK (6.06).

Subtest-6 (Syllogism)

This test is related with the ability of logical thinking. The average score is higher for Prakruti PV (6.72); then it decreases slightly for Prakruti PK (6.23). It further reduces for Prakruti VP (4.33) & remains same for Prakruti VK (4.31).

Finally, the average total IQ score is higher for Prakruti PV; then it decreases slightly for Prakruti PK. It further reduces for Prakruti VP & reduces slightly again for Prakruti VK was observed in study.

The most of individuals of Vadapradhan Prakruti had an IQ score in range of 90-119, which is of normal level of intelligence. The most of the individuals of Pittapradhan Prakruti had an IQ score in range of 120-132 (132 is highest score of the test), which is of very superior level of intelligence. This observation shows that, the Pittapradhan Prakruti individuals are more intelligent than Vadapradhan Prakruti individuals.

Conclusion

1. The individuals of Pittapradhan Prakruti are Medhavi (Intelligent) than Vadapradhan Prakruti individuals.
2. The IQ score is highest for Prakruti PV, then for Prakruti PK, it further reduces for Prakruti VP and its least for Prakruti VK. This conclusion is drawn from statistical analysis for subgroups of Prakruti.
3. The most of individuals of Vadapradhan Prakruti had an

IQ score in range of 90-119, which is of normal level of intelligence. The most of the individuals of Pittapradhan Prakruti had an IQ score in range of 120-132, which is of very superior level of intelligence.

4. The reference of Medha and Pitta Prakruti relation mentioned in Ayurvedic compendia is revalidated.

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