

Whether the Individual's Particular Prakruti May Play a Key Role as One of the Major Causative Factors for Incidence of Myopia? - A Pilot Study

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Abstract

Introduction: Prakruti is the individual's unique constitution on the basis of Dosha dominance. Considering the fact, in the recent past there have been several studies that have been proposed on the basis of some important genetic, biochemical and hematological basis for Prakruti. The aim of the present study was to evaluate that whether the Prakruti has any role in the incidence of myopia?

Method: We conducted this study in healthy young volunteers including the both gender after taking their written consent. The Prakruti of these volunteers was assessed based on a validated questionnaire. After confirming that the primary Dosha ascertained by self-assessment questionnaire, 151 volunteers were shortlisted and grouped into three on the basis of primary Dosha and their visual acuity recorded by using Snellen's chart (distant vision chart reading) as numerical convention and later converted into percentage. The results were analyzed by applying suitable statistical tests.

Results: As per the results of visual acuity test by using Snellen's chart (distant vision chart reading) have no relationship with the primary Dosha expressed in an individual.

Conclusion: Individual Prakruti may not be the only one major governing factor for incidence of myopia. Visual acuity variation in different individual may be influenced by many other causative factors too.

Keywords: Dosha; Myopia; Prakruti; Visual acuity

Introduction

Prakriti is the unique essential aspect of the human being, establishment of particular Prakruti in individual is not only affected by prenatal genital factors but also influenced by some other postnatal intra-extra uterine factors, on the basis of any of these factors, related Dosha will become predominant and that may be play as an important influencing factor for the expression of related physical, physiological and psychological traits which make us unique among us. One's individual constitution is identified; this knowledge may be useful to prevent the disease stage and as well as in maintaining the health of the individual by advising the proper Ayurvedic regimen. It may be useful in prediction of susceptibility of individual for specific disease, prognosis of the disease condition and as well as in prescribing the Prakruti based personalized medicine in disease condition for alleviating the disease stage [1-4].

In the recent past, there have been several interesting studies indicating either a genetic or a biochemical basis for these constitutional types described in Ayurveda were done [5-9]. In the recent past a few researchers have hypothesized that certain Netra sharrir parameters might vary in accordance with constitutional types defined in Ayurveda [10]. However, there are no studies in this area reporting a possible link in between the Prakruti and visual acuity relationship. If this type of relationship established, it would apart from

being helpful in selecting the necessary eye care methods to control the manifestation and further complication of refractory errors. With this background we planned present study to investigate the role of Prakruti in incidence of myopia.

Material and Methods

Population

The population for the present study was defined in terms of BAMS students enrolled in Shri O.H. Nazar Ayurveda College, Surat, Gujarat who were aged between 17-24 years. After taking the written consent from those who responded to our request for voluntarily participating in our research, a thorough clinical examination was carried out to confirm that they were clinically healthy and along with by following the inclusion and exclusion criteria we selected 151 individual's after that selected individual's Prakruti was assessed by standard validated questionnaire.

Inclusion criteria:

- Clinically healthy
- Without any congenital eye diseases.
- Refractory error

Exclusion criteria:

- Volunteers who were known to have some chronic illnesses or those who suffered from any acute illness during the period of study.
- Developmental delay, retinopathy of prematurity, glaucoma.
- Congenital cataract, pathologic myopia.

Assessment of Prakruti

Prakruti of the individual was determined by using the standard and validated self-assessment questionnaire tool. This tool uses simple questions/statements as described in Charak samhita reflecting a trait or feature along with attributes ascribed to that particular Dosha. The respondents were asked to record their agreement or disagreement in the form of yes or no. After having completed the questionnaire, the volunteers were asked to calculate the percentage of each Dosha and report it [11].

Only after confirming that the dominant Dosha contributing to one's Prakruti assessed by this approach was based on the questionnaire, the final inclusion of the volunteers was done. 151 volunteers (30 males and 121 females) fulfilled these requirements and were registered for the study.

Performing the visual acuity test

The distant visual acuity was tested by using Snellen's chart test. The individual was seated at 6m from the chart, so that the rays of light were practically parallel to and the individual exerts minimal accommodation. The individual was asked to read the chart with each eye separately and the visual acuity was recorded as fraction, the numerator being the distance of the subject from the letters, and the denominator being the smallest letters accurately read. If the individual read only the first 4 lines, then the visual acuity was recorded as 6/18, and so on. The individual's whose visual acuity was less than 6/60 were omitted from the study. The visual acuity was recorded as numerical convention as 6/6, 6/9, 6/12, 6/18, 6/24, 6/36, 6/60 and later it converted into percentage as per the methods suggested [10,12] (Table 1).

Snellen's Chart Reading	Percentage (%)
6/6	100
6/9	90
6/12	80
6/18	60
6/24	50
6/36	40
6/60	20

Table 1: Record of Snellen's chart test.

After performing the Visual acuity with the both eyes (right and left), we were included only that eye (either right or left) visual acuity reading which having low visual acuity.

Results

We classify the sample into three groups based on the Primary Dosha (most dominant Dosha) that contributes to one's Prakruti (Tables 2 and 3).

Variables	Frequency	Percentage (%)	
Primary Dosha	Kapha	90	59.6
	Pitta	26	17.22
	Vata	35	23.18
	Total	151	100

Table 2: Distribution of the volunteers as per Primary Dosha. This suggests that out of 151 volunteers, the maximum number (59.60%) of volunteers had Kapha as the primary Dosha while minimum number (17.22%) of volunteers had Pitta as the primary Dosha and 23.18% volunteers had classified Vata as Primary Dosha.

Variables	N	Mean ± Std. Deviation	F	Sig.	
Visual acuity Results according to Primary Dosha	Kapha	90	68.111 ± 34.410	1.283	0.2803
	Pitaa	26	78.846 ± 30.243		
	Vata	35	74.857 ± 32.118		
	Total	151	221.814 ± 96.771		

Table 3: Visual acuity results as per Primary Dosha. This shows that the mean percentage Visual acuity results for primary Dosha in each group were not significantly as well as clinically greater than the other two Primary Dosha group.

Discussion

We classified the sample on the basis of most dominant Dosha (primary Dosha) only because when we tried to classify the sample on the basis of 'two most dominant Doshas', we encountered a question as to how should we group the individuals with same Dosha composition but with varying dominance? For instance, if we group people with 'Vata-Kapha' and 'Kapha-Vata' into a single group, the significance of dominance would be lost, compromised and even may get Similarly, if we classify 'Vata-Kapha' and 'Kapha-Vata' into two different groups, there would be a total of six groups, which is again, against the recommendation of classical textbooks of Ayurveda.

Myopia, often known as "being short sighted" causes your vision to be blurry in the distance but clearer when looking at things up close because of people with myopia have an eye which bends the light comes to a focus point before it reaches your retina. As per different researcher's point of view myopia may be caused due to any of following factors:

1. If both parents are myopic there is a greater risk of their children will be myopic.
2. Excessive reading or holding a book too your eyes for extended period can increase the risk for myopia.

3. Excessive watching of T.V. and excessive playing of video games on mobiles. 4. Congenital, pathological or degenerative changes in eye may increase the risk of myopia and so on [13,14].

In Ayurveda classics there is a one reference available that the vision of eye is mostly reflected by Pitta-Tej, so it may be abolished by Kapha Dosha [15], but in our present study we found that visual acuity mean of Vata, Pitta and Kapha individual is not significantly greater than expected by chance, it means that there was no relationship established in between the Prakruti and myopia. Here it clarifies that particular Prakruti is not only one causative factor for the incidence of myopia; but there may be so many other factors are there they all collectively may play a major role in incidence of Myopia.

Limitation of the Study

This study was carried as preliminary basis with including smaller sample size and without distributing the groups with symmetrical number of Prakruti individual, so to come out on accurate conclusion there may be need to carry out research study with including larger sample size and as well as by classifying the groups with including the uniform numbers of Prakruti individuals.

Conclusion

The study suggests that Prakruti is not only one major influencing factor for the incidence of myopia, apart from it there are other external factors are there they may plays a major role in the incidence of myopia. The study also suggests that while investigating various aspects of Prakruti, the researchers are needed to classify the groups with including the uniform numbers of Prakruti individuals having larger sample size for drawing an accurate conclusion.

References

1. Rapolu S (2017) Know your Prakruti for better health, (1st edn) Saraswati Pustak Bhandar, Ahmedabad, India.

2. Frawley D (2015) Ayurvedic Healing-A comprehensive guide, Motilal Banarasidas, Delhi, India.

3. Thomson D (2001) The Ayurvedic Diet: The ancient way to health rejuvenation and weight control. Tinkles, New Delhi, India.

4. Rapolu S, Tripathi PK (2014) Assessment of Prakriti to maintain health condition and for the prevention of disease by Ayurvedic Regimen, *Sch. J App Med Sci* 2: 702-705.

5. Rapolu SB, Kumar M, Singh G, Patwardhan K (2015) Physiological variations in the autonomic responses may be related to the constitutional types defined in Ayurveda. *TANG* 5: 38-44.

6. Bhalerao S, Patwardhan K (2016) Prakriti-based research: Good reporting practices. *J Ayurveda Integr Med* 7: 69-72.

7. Patwardhan B, Bodeker G (2008) Ayurvedic genomics: Establishing a genetic basis for mind-body typologies. *J Altern Complement Med* 14: 571-6.

8. Govindaraj P, Nizamuddin S, Sharath A, Jyothi V, Rotti H, et al. (2015) Genome-wide analysis correlates Ayurveda Prakriti. *Sci Rep* 5: 15786.

9. Prasher B, Negi S, Aggarwal S, Mandal AK, Sethi TP, et al. (2008) Whole genome expression and biochemical correlates of extreme constitutional types defined in Ayurveda. *J Transl Med* 6: 48.

10. Shreejith TJ (2013) Study of Netra Shareera with special reference to incidence of myopia in Eka Doshaja Prakruti. MD (Ayu) thesis, Dept of Rachana Shareera, Alva's Ayurveda Medical College and Hospital, Moodbidri, Dakshina Kannada.

11. Tripathi PK, Patwardhan K, Singh G (2011) The basic cardiovascular responses to postural changes, exercise, and cold pressor test: do they vary in accordance with the dual constitutional types of Ayurveda? *Evid Based Complement Integr Med* 2011.

12. Ghai CL (2013) A text of practical physiology, (8th edn) Jaypee Brothers Medical Publishers (P) Ltd, New Delhi, India.

13. Bailey G (2018) Myopia (Nearsightedness): Causes and treatment. All About Vision.

14. Heiting G (2019) Myopia causes: Is your child at risk? All About Vision.

15. Shastri GM (2005) Sutra Sthana-Charak Samhita 5/15, Sastu Sahityavardhak Karyalay, Bhargavi printers, Ahmedabad, India pp: 71-72.